GAS

ENGINEERING • UTILIZATION • LOAD-BUILDING • MANAGEMENT

MISSIONARIES OF "MEASURED HEAT"

• Many valuable facts are being offered these days on the vitamin content of foods. But have you noticed how little the public is told about how to cook these foods so that these vitamins may be preserved?

• Robertshaw has seized this golden opportunity to perform a much-needed public service—and also promote the modernity of gas cooking so that there will be a market for better gas cooking equipment when peace is here again.

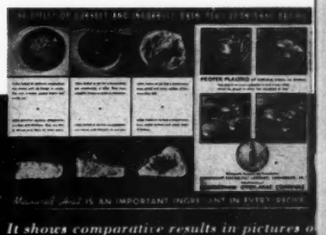
• Through its Education Program, Robertshaw is teaching the gospel of "Measured Heat" and the part heat plays in proper cooking. The Robertshaw "Measured Heat" Program is used by Home Economics teachers in grade and high schools. It is also widely used by County Home Demonstration Agents, Home Economics supervisors, and at Universities where home economics teachers study. These are the people in whose hands the future of gas cooking lies.

ROBERTSHAW THERMOSTAT COMPANY
YOUNGWOOD, PA.

THE ROBERTSHAW EASURED HEAT PROGRAM explains the importance of optimum temperature in baking and roasting—

It covers in detail batters and doughs, the functions of the ingredients, leavening agents and measured heat . . .

It discusses meat shrinkage, the influence of roasting time, means of determining degree of doneness, etc . . .



It shows comparative results in pictures o wall charts, in student material and te book . . .

THERE ARE NO PRIORITIES ON PROGRESSIVE THINKING!

IN times of emergency, such as these, there is little incentive or opportunity for the average manufacturer to develop new lines or to build improvements into existing products. Unprecedented wartime demands are not conducive to immediate progress within the equipment industry. But there is the opportunity for some good solid thinking on what can be done when the emergency is over.

The Engineering, Research and Development Departments of the Pittsburgh Equitable Meter Company and Merco Nordstrom Valve Company are thinking ahead of the times. On the drawing boards new designs are taking form. In the laboratories, experimental models are being put through their paces. Scarcity of materials and priority controls will prevent the immediate introduction of these developments. *But there are no priorities on progressive thinking.* With the ultimate return to normal, the results of today's research will be apparent in tomorrow's equipment.

The EMCO-Nordstrom organization, with its unexcelled facilities for research and development, including fellowships at a world renowned scientific institute, is contributing valuable aids to the Nation's war efforts.

In peace or at war, continuous research goes forward to assure that the technical developments of the future, be they designs, materials or methods, will be incorporated in EMCO Gas Meters and Regulators and Nordstrom Lubricated Plug Valves.

PITTSBURGH EQUITABLE METER COMPANY

NEW YORK · BROOKLYN · DES MOINES · MEMPHIS · OAKLAND · TULSA · CHICAGO · BOSTON

MERCO NORDSTROM VALVE COMPANY
Main Offices, Pittsburgh, Pa.

NATIONAL METER DIVISION, Brooklyn, N. Y.

KANSAS CITY · PHILADELPHIA · SAN FRANCISCO · LOS ANGELES · SEATTLE · HOUSTON · COLUMBIA · BUFFALO

EMCO NORDSTROM

WHAT PART HAS *Pipe* IN THE WAR PROGRAM?

YOU'LL probably be surprised. For example: A bed for one of Uncle Sam's soldiers takes twelve feet of pipe. A water line for just one cantonment is many miles long. A single demolition bomb starts from more than a thousand pounds of steel tube. The boilers of our newest battleships contain tons and tons of seamless boiler tubes. An army bomber may require a thousand pounds or more of mechanical tubing. Uncounted numbers of shells, tank parts, cannon mounts, machine gun rests, etc., all take an enormous quantity of pipe and tubes.

We wish you could see the ceaseless activity going on within NATIONAL Tube Company mills, the speeding up of production facilities, the improvements through tireless research. Then you would share our confidence that whatever the call for tubular products for war requirements, NATIONAL Tube will be ready to do its full part.

We are glad that in this emergency we have been able to render our country quick, vital and quantity aid. We're all in the same boat, pulling to the same end—mill, factory, distributor, and consumer.

It's a journey none of us wanted to take, but having embarked on it, we Americans shall see it through.

NATIONAL TUBE COMPANY

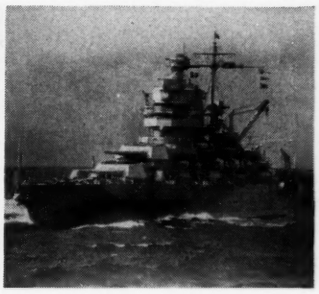
PITTSBURGH, PA.

Columbia Steel Company, San Francisco, *Pacific Coast Distributors* — United States Steel Export Company, New York

UNITED STATES STEEL

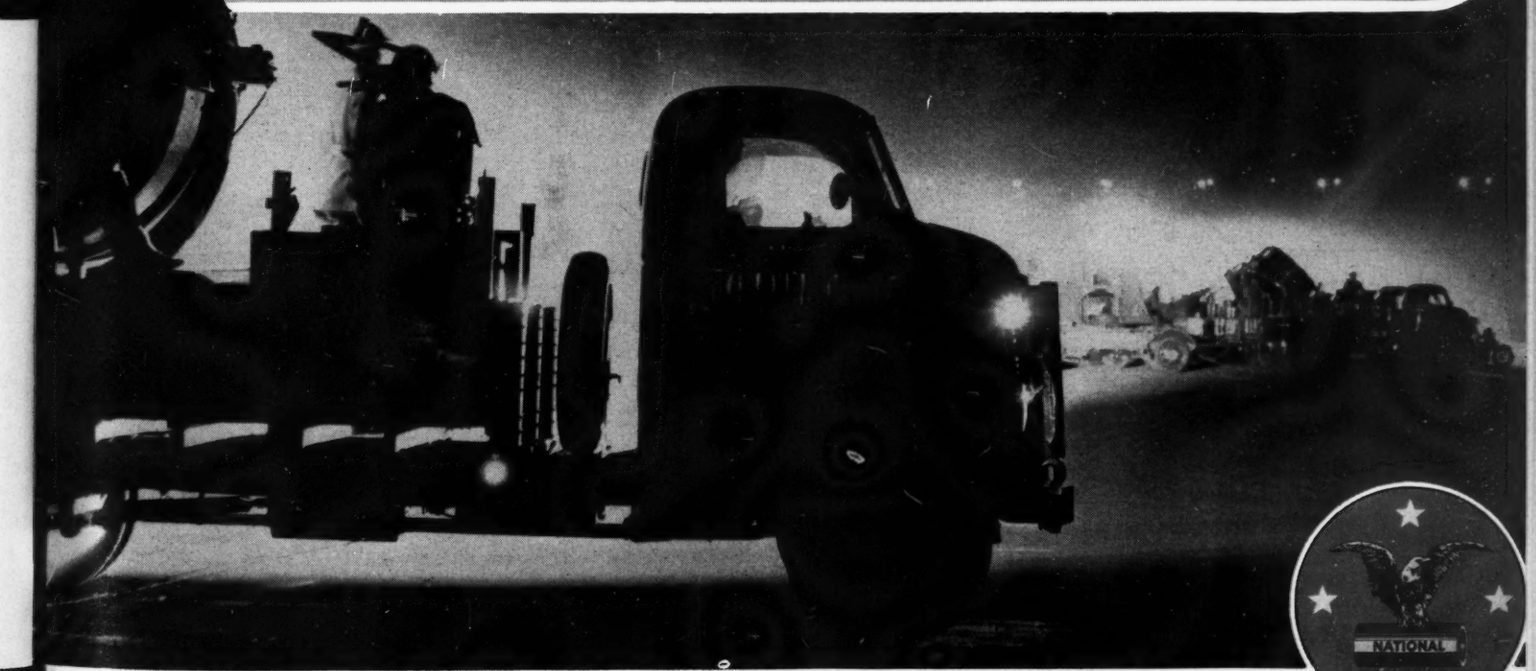
TRENCH MORTARS stand firmly on supports of SHELBY Tubes.

TANKS of all kinds call for vast quantities of Seamless Tubing.



BATTLESHIPS are a maze of pipe and tubes, from stem to stern.

MODERN BOMBERS use SHELBY Aircraft Tubing in many parts.



AMERICA'S STANDARD WROUGHT PIPE

Advertisers

American Brass Co.	41
American Cast Iron Pipe Co.	—
American Meter Co.	12
American Radiator & Standard Sanitary Corp.	—
American Recording Chart Co.	44
American Stove Co.	—
Bishop Publishing Co.	37
Blaw-Knox Co.	5
E. D. Bullard Co.	54
Burrell, George A.	56
Cast Iron Pipe Research Ass'n	3
Chaplin-Fulton Manufacturing Co.	49
Clark Bros. Co., Inc.	—
The Cleveland Trencher Co.	53
Connelly Iron Sponge & Governor Co.	51
The Cooper-Bressemer Co.	—
Cribben & Sexton Co.	10
Dearborn Chemical Co.	8
Dresser Manufacturing Co.	—
Fisher Governor Co.	—
The Fluor Corp., Ltd.	6, 7
General Controls	40
General Electric Co.	—
General Gas Light Co.	—
Greenlee Tool Co.	42
Handbook Butane-Propane Gases	55
Ingersoll-Rand	—
Jacobs Wind Electric Co.	—
Johns-Manville	51
Jones & Laughlin Steel Corp.	—
Kitson Co.	50
Merco Nordstrom Valve Co.	Second Cover
Milwaukee Gas Specialty Co.	56
Minneapolis-Honeywell Regulator Co.	—
Mueller Co.	50
National Tube Co.	1
Natural Gas Odorizing Co.	—
Norton-McMurray Manufacturing Co.	—
Otis Pressure Control Co.	45
Pacific Gas & Electric Co.	43
Pacific Meter Works	12
Payne Furnace & Supply Co.	43
Pitman, J. C., & Sons, Inc.	48
Pittsburgh Equitable Meter Co.	Second Cover
Reliance Regulator Corp.	4
Republic Steel Corp.	Third Cover
Reynolds Gas Regulator Co.	47
Robertshaw Thermostat Co.	Front Cover
Geo. D. Roper Corp.	—
The W. J. Schoenberger Co.	46
Semet-Solvay Engineering Corp.	46
Servel, Inc., Electrolux Sales Division	38, 39
Sharples Chemicals, Inc.	—
M. B. Skinner Co.	—
A. O. Smith Corp.	—
Spencer Thermostat Co.	50
Sprague Meter Co.	Fourth Cover
U. S. Pipe & Foundry Co.	—
United States Steel	1
Utility Fan Corp.	54
Vulcan Proofing Co.	9
Ward Heater Co.	—
Worthington Pump & Machinery Corp.	—
The Webster Engineering Co.	—

GAS

REG. U. S. PATENT OFFICE

Eighteenth Year of Publication

Contents for June, 1942

GUEST EDITORIAL: A Titanic Struggle of Resources.....*By Harold L. Ickes* 11

Thermally Thinking 13

Gas at War..... 14

Washington Notes 14

The Sales Front; Employees Buy Bonds; Public Relations..... 16

Home Defense; Vitamins for Health; Metal Salvage..... 17

Employee Rehiring Rights; Ruling on Advertising Cost; WPB Decentralizes; OPC Natural Gas Division..... 18

Well Abandonment; Rubber Production; Range Conservation; Asphalt-Sand for Barricades..... 19

FEATURE ARTICLES

Appliance Servicing in War Time: (A Symposium)—*By J. M. McCaleb, J. M. Pickford, D. C. Ellswood and C. A. Peterson*..... 20

Efficient Gas Production Methods.....*By R. O. Garrett* 24

Protecting Gas Wells Against Sabotage.....*By John O. Farmer* 25

Progress on the Pipe Line..... 27

Back Up the War With Advertising.....*By Robert and Glenn Bishop* 29

War Conference in New Orleans.....*By Arthur Rohman* 31

GAS Camera Highlights New Orleans Convention..... 32

DEPARTMENTS

Nu-Ways	30	People	48
Associations	31	Obituaries	52
Calendar	36	Products	54
Abstracts	44	Catalogs	55

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GUEST EDITORIAL

A Titanic Struggle of Resources

By HAROLD L. ICKES

Petroleum Coordinator for War*

DURING the past decade or so, when Hitler and his "co-hordes" were planning for war, we in this country were planning peacefully for the conservation of our petroleum resources. We were learning how to recover oil and natural gas efficiently and with sharply decreasing waste. The men of your industry and your cousins in the oil industry, the state conservation authorities, and Federal agencies were working together. You were not planning for war, yet you were, surprisingly enough, making it possible for the country to be ready if war should come at least so far as your industry was concerned. Without petroleum, and without natural gas, we could not win this war within the time which it will now take us.

We must not only think of our immediate war requirements; we must also plan and conduct our operations so as to provide a sufficient supply for an indefinitely long period into the future. We must continue our conservation practices in order to have sufficient reserves to meet the post-war problems of reconstruction. In winning the war we do not want to exhaust our valuable and irreplaceable oil and gas reserves, unless it is literally a matter of liberty or slavery, of life or death.

In some quarters there seems to be an unjustified feeling that state laws and the functioning of state regulatory bodies are no longer necessary or important on the ground that the Federal Government has taken over full control of the gas and oil business. I can assure you that there is no basis for such a point of view. It has been necessary to impose, for the period of the war, a certain amount of Federal regulation of the oil and gas industries just as it has been necessary to regulate other essential industries.

I am sure that an overwhelming number of men in the industry believe as implicitly as I do that the Office of Petroleum Coordinator is an agency that was created to meet an emergency and that it will be discontinued when the emergency ends.

The War Production Board has issued, upon my recommendation, orders that are designed to achieve the desired conservation of our oil and gas resources. Recommendations to individual units in the gas and oil industries, as well as to interested state regulatory bodies have been accepted cheerfully and voluntarily. In no instance has any state been *ordered* to do thus and so. We have indicated what the national program requires of each state, leaving it to the states themselves to work out their own problems of how best to do their part in meeting the national requirements.

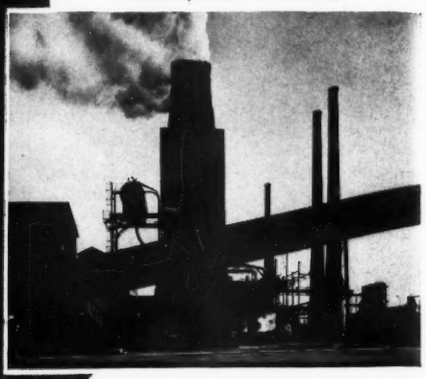
But the states must have effective laws, properly administered, for speedy and decisive results, if we are to continue to rely solely upon their voluntary cooperation. It would be highly desirable if each state adopted, where necessary, or revised and strengthened its gas and oil conservation laws. A record of successful administration during the war will demonstrate fully that a state is able to regulate and control its petroleum operations.

In peacetime, the natural gas industry has provided fuel for domestic heating, cooking, hot-water heating, and refrigeration. It has also sold large volumes of natural gas to industrial consumers. In wartime, natural gas assumes an added importance, particularly when it is used in those industrial enterprises which are making the materials that are necessary for our fighting forces. To meet the new situation and to recognize the importance of natural gas and natural gasoline in the war, we are creating a Natural Gas and Natural Gasoline Division which will function in the same manner and on the same level with the other operating divisions of the Office of Petroleum Coordinator.

We may assume that all efforts will be made by the natural gas industry and by the governmental agencies to continue the supply of gas for ordinary domestic purposes, but it will be the duty of the industry to recognize immediately the necessity of assuming the additional war-time load which has been placed upon its shoulders, and to adjust its operations accordingly.

*Excerpts from an address by Hon. Harold L. Ickes, Secretary of the Interior and Petroleum Coordinator for War, delivered before the Annual Natural Gas Convention, Roosevelt Hotel, New Orleans, La., May 6.

Photos by Robert Yarnall Richie



I serve . . .

It serves the community, without fanfare, in times of tranquillity and times of stress. The **AMERICAN** Tinned Steelcase Meter has been quietly doing its increasingly effective job since 1859—when first appeared the Glover two-diaphragm slide-valve dry gas meter. ▷ Millions of **AMERICAN** Tinned Steelcase Meters are today busy at their appointed tasks . . . each a symbol of protection to gas company and consumer equally. No other instrument has done more to further the cause of reliable gas measurement. ▷ REVISED CATALOG TG-4 indicates the latest technological advances in design and new skills in manufacture which have brought increased meter capacity, improved performance and accuracy . . . affording lower cost per meter-dollar invested, and sound consumer relations.

GENERAL OFFICES • 60 EAST 42ND STREET, NEW YORK, N. Y.

AMERICAN
METER COMPANY
INCORPORATED (ESTABLISHED 1836)

1655

TINNED STEELCASE METERS

THERMALLY THINKING

A Commendable Choice

THE creation of a Natural Gas and Natural Gasoline Division in the Office of the Petroleum Coordinator, as announced by Petroleum Coordinator for War Harold L. Ickes at the Natural Gas Convention in New Orleans is a timely and propitious recognition not only of the essential character of natural gas in our war economy, but of the industry's ability and its willingness to undertake from within the planning and regimentation of its own affairs that will insure the fullest and most effective use of every resource at its command.

The selection of E. Holley Poe to be the director of this division will confer official status in government circles on a man to whom both the OPC and the industry are singularly indebted for the efficient and smooth functioning cooperation that has existed since defense problems first loomed to plague public and private officials alike.

We are confident that the industry at large will recognize that Mr. Poe in his new function cannot be in any sense regarded as an emissary of private interests, government appointed to mitigate the necessary limitations and demands under which war-time operations must be carried on. He will not be there to save the industry first, but rather to so direct the activities of the industry that it may play its assigned part in saving the whole nation.

The old-time suspicion with which many in natural gas circles regarded the motives of Secretary Ickes has been allayed now almost to the point of extinction, as a result of the realistic appraisals of current problems, and the intelligent working suggestions advanced by Mr. Poe in his capacity of secretary of the Natural Gas Section of the American Gas Association. Working from a background of utility operation, he has long held the trust and the esteem of the industry; and to this he has added the still more difficult attainment of the confidence of government itself.

It has been said, and we believe with justice, that within its scope one of the cleanest and most effective contributions to the whole war effort is being made by the natural gas industry. The philosophy and the attitude of the industry in which such effectiveness must inevitably have its origin is due in a large measure to the counsel and leadership of Holley Poe.

When his appointment is officially made, as is now universally expected that it will be, the new and vital capacity in which he will serve will be but an extension of the scope of those activities in which he has already acquitted himself and the industry with marked success. Scanning the entire roster of natural gas men, the Petroleum Coordinator would search in vain for one better qualified for the responsibility that the appointment entails.

■ ■

Frozen Inventories

PRESENT indications are that gas companies and gas appliance dealers who have hoped for some relaxation of the restrictions of WPB Order L-79 to permit the quick sale of high-priced or de luxe ranges now held frozen in inventory are doomed to disappointment. (See page 14.)

What to do with the existing inventory under the amended L-79 is up to the individuals who are now left with frozen merchandise in the warehouses and on their showroom floors. The WPB has been at great pains to make it possible for dealers or other handlers to sell merchandise back to their jobbers, wholesalers or manufacturers. And the WPB makes no secret of the fact that that is what they would like to see happen to the gas ranges and heating stoves now held in dealers' and presumably in utilities' stocks.

The existing gas range inventory is now probably in excess of 600,000 units, in all sizes and models, with the possibility that by the end of July, when Order No. L-23-c virtually ends production there will have been completed another 150,000. No de luxe models are now being constructed, but of those already in inventory a large number are no doubt of the more expensive models, which are totally unsuited to the run of the mill defense housing dwellings.

Since stove manufacturers will be limited to one so-called "permitted type," with only certain manufacturers allowed to make even these, stoves of the quality class are due to become scarce, and within a short time to disappear altogether from the market. It is now apparent that the permitted types will be cheap models, generally of the quality that can be expected to retail at about $40. From the off-the-record remarks of WPB officials, two things are apparent: One, that less than 20% of the capacity of the stove industry will be required to fill what will be considered the legitimate emergency demands; and, two, that there will be no general relaxation of the restrictions of L-79 so as to permit the sale of expensive makes to the general public.

Dealers will be permitted, however, to sell gas ranges to new homes, and to old homes where replacement of the existing ranges is an absolute necessity due to the condition of the existing equipment. Since it is highly improbable that the range manufacturers, working under the limitations set down by Order L-23-c, will be able to turn out stoves that will have any appeal at all to qualified prospects who can afford to invest more than $40 in cooking equipment, there should be little difficulty in disposing of all existing inventories at the top prices permitted under the OPA ceilings.

It thus appears, from the information now available, that both utilities and dealers will be able to dispose of all their present stocks within a reasonable length of time in the consumer market. For those who would prefer to get out from under now, there remains the avenue of selling back to manufacturers, jobbers, wholesalers or other dealers who may desire to purchase.

We assume that most of the sales departments of merchandising utilities will elect to hold their stocks for sale to properly qualified retail customers, even though the disposing of stocks will take a longer time, and will in the long run not be attended by very sizable profits.

GAS at WAR

Washington Notes

BRIEF resumes of the orders issued last month by the War Production Board affecting the gas industry and its manufacturers are:

Gas Cooking, Water Heating, and Space Heating Equipment (Limitation Order L-79): An amended L-79, effective May 23, liberalizes the terms under which new gas cooking, water heating, and space heating equipment can be sold. The order was issued so that minimum health and sanitation conditions may be maintained during the emergency.

Gas-fired warm air furnaces and floor furnaces are not restricted by the order. These may be sold and installed without priority anywhere, although in those areas covered by L-31, gas utility companies may not supply gas to serve new heating customers, except under certain conditions. Such heating equipment may also be installed under P-84, the Plumbing and Heating Repairs order, which permits emergency replacements. Refrigerators also are not covered by the order, as these fall under the L-5-b. (See page 15.)

Under the terms of the order, any person may sell and deliver any item of new metal plumbing equipment or new metal heating equipment as:

1. New gas cooking and baking equipment, direct fired and indirect fired water heating equipment, and space heaters to occupants of homes—old or new—in which there is no equipment of the type listed and where there is available no other equipment that can be substituted. The purchaser must sign a statement representing to the War Production Board and to the supplier that his statements are true and that the equipment is to be used for purposes as stated.

2. New heating, cooking or water heating equipment in new or remodeled buildings started after July 31, 1941, but prior to April 10, 1942. The purchaser must sign a statement of affirmation for the WPB.

3. New heating, cooking or water heating equipment in new or remodeled buildings which have been specially authorized by the Director of Industry Operations pursuant to an application for authority to "begin construction" in accordance with Limitation Order L-41. The purchaser must sign a statement for the WPB.

In addition to the conditions listed above, a dealer may sell metal plumbing and heating equipment:

1. Where equipment is specifically designed as hospital, surgical, dental, veterinarian, barber shop, or beauty parlor equipment.

2. Pursuant to an order received or a contract made before April 17, 1942, provided that delivery is made not later than June 30, 1942.

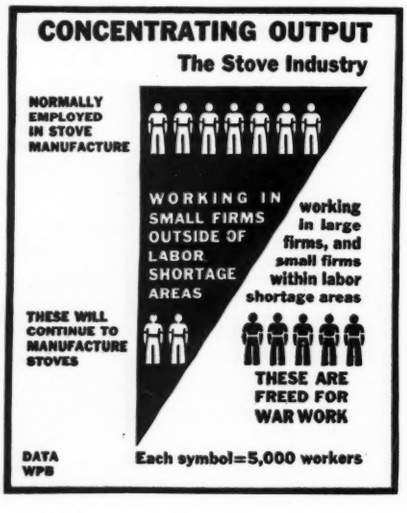
3. On specific authorization of the Director of Industry Operations on Form PD-423.

4. Pursuant to a contract or order bearing a preference rating of A-10 or better.

Persons affected by the order are required to keep records concerning inventory and sales, together with the signed statements referred to above, for a period of not less than two years. Upon request, the War Production Board may inspect such records.

Domestic Cooking and Heating Stoves (Limitation Order L-23-c): The principle of concentration of production was adopted last month by the War Production Board with the issuance of L-23-c, effective May 15, which will bring to an end the manufacture of domestic cooking and heating stoves by large producers after July 31, then permitting the production of a limited number of simplified, lightweight models in small factories located in non-labor shortage areas for civilian use.

The effect of this order is to release large firms for war production and permit the essential civilian needs for cooking and heating stoves to be met by the small manufacturers. It is estimated that the order will release 25,000 employees for war production work and make available 350,000 tons of iron and steel annually for war needs.


CONCENTRATING OUTPUT
The Stove Industry
NORMALLY EMPLOYED IN STOVE MANUFACTURE
WORKING IN SMALL FIRMS OUTSIDE OF LABOR SHORTAGE AREAS
working in large firms, and small firms within labor shortage areas
THESE WILL CONTINUE TO MANUFACTURE STOVES
THESE ARE FREED FOR WAR WORK
DATA WPB
Each symbol=5,000 workers

The order covers the entire domestic cooking appliance industry (except electric) and the entire domestic heating stove industry (except electric) and establishes three classes of manufacturers:

Class A — Those whose factory sales value for the year ending June 30, 1941, totaled $2,000,000 or more.

Class B—Those whose factory sales in the same period totaled less than $2,000,000, and who are located in labor shortage areas.

Class C—Those whose sales in the same period totaled less than $2,000,000 and who are *not* located in labor shortage areas.

Requirements for at least a year are expected to be met by the 1,200,000 new stoves—660,000 cooking, 540,000 heating — now in existence, plus the 800,000 that will be produced in the period to July 31, when Class A and B manufacturers must shut down.

After July 31 no manufacturer may produce more than one model of the permitted-type gas range. Manufacturers of the permitted-type gas range must comply with the requirements for performance, operation, and construction set forth in the American Emergency Standard Approval Requirements ments (Z21.ES, 1942) issued by the American Gas Association. Specifications in brief:

Gas Ranges: Not more than four top burners, one baking oven and one broiler, no storage space or accessories; a total metal weight of not over 100 lbs.

Gas Hot Plate: Not more than three burners; total weight of metal not over 15 lbs.

Combination Range (gas and coal or wood). One baking oven, one broiler, no storage space or accessories; total weight of metal not over 350 lbs.

Domestic Heating Stove. Such above-the-floor heaters (for direct heating, no heat distribution pipes or ducts as integral parts) are limited to a metal weight per unit of not over 70% of average weight of metal used per unit in year ended June 30, 1941.

No cooking appliances may be equipped with any iron or steel cover tops or lids to cover cooking surfaces when not in use. Prohibited accessories include closets, shelves, aprons, clocks, cast broiler pans, thermometers or any other instruments, attachments or appurtenances (except thermostats, reser-

voirs, water backs and portable ovens) not essential to top-burner cooking, oven baking or oven broiling.

Of the production of permitted types by firms which will continue to manufacture cooking and heating appliances, about 75% will be available for civilian use. This is believed to allow a sufficient number for essential civilian purposes.

The labor shortage areas are as follows:

Alabama—Huntsville.
California—Beverly Hills, Culver City, Huntington Park, Irvington, Los Angeles, Monrovia, North Hollywood, Oakland, Petaluma, San Francisco, San Rafael, Stockton.
Connecticut—Hartford, New Britain.
Indiana—Indianapolis, South Bend.
Kansas—Wichita.
Maine—Portland.
Maryland—Baltimore, Perryville.
Michigan—Milan.
New Hampshire—Salmon Falls.
New Jersey—Cranford, Newark, West Berlin.
New York—North Tonawanda.
Ohio—Akron, Cleveland, Massillon.
Oregon—Portland.
Pennsylvania—Erie, Lansdale, Middletown, Philadelphia, Pottstown, Royersford.
Washington—Everett, Seattle.

The plumbing and heating branch estimates that 92 companies out of a total of 245 affected by the order will be required to discontinue stove manufacture after July 31.

Natural Gas (Limitation Order L-31, Amendment No. 2 to Exhibit A): Restrictions on delivery of natural and mixed natural and manufactured gas to consumers have been extended in parts of Iowa, Kansas, Minnesota, Nebraska, Oklahoma and South Dakota, effective May 15.

In those areas no utility may serve new non-residential consumers, or increase deliveries to existing non-residential consumers unless such consumer installs standby facilities, or unless such delivery is approved by the WPB. No utility may deliver gas for heating unless gas heating equipment was installed prior to May 15 or unless, in case of new construction, the equipment was specified in the contract and the foundation completed prior to May 15. The prohibition also applies to equipment converted from other fuels to natural or mixed gas unless converted before May 15.

Direct-Fired Gas Storage Water Heaters (Schedule IX to Limitation Order L-42): This order, which became effective May 15, simplifies the manufacture of such water heaters. Its terms:

(1) Storage tanks shall be made in the following sizes: 20, 30 and 40 gal.

(2) Cold water inlet pipe or dip tube shall be of galvanized or enameled iron; no copper or copper base alloy shall be used.

(3) Metal jackets shall be eliminated.

(4) Brass draw-off cocks shall be eliminated.

(5) Models requiring more than one heat flue shall be eliminated.

The order provides also that no metal jackets for direct fired gas storage water heaters shall be produced after May 1. Both producers of water heaters and metal jackets are allowed to deliver products produced before or in process of production on May 15.

Domestic Mechanical Refrigerators. (Limitation Order L-5-d): The War Production Board on May 26 issued Supplementary General Limitation Order L-5-d, to become effective June 15. This new order will supersede L-5-b, according to a letter from George S. Jones, vice president and general sales manager of Servel, Inc.

On June 15 all gas and kerosene refrigerators can be sold only by securing a Certificate of Necessity from the War Production Board. After June 15, but not before, refrigerators of all kinds, including gas and kerosene, may be sold through the regular distribution channels provided only that the ultimate user is either the Army, the Navy, Maritime Commission, Panama Canal, or a person or persons who has secured the necessary certification from the War Production Board. In other words—a dealer having secured such a certificate for a user may sell from his stock if available—may supply part or all from the distributor who in turn may get it from the manufacturer.

Prices of used mechanical refrigerators were in general pegged at February levels by Regulation 139, effective May 18. Sellers in the 11 Western States may add $5.00 to the price allowed. The order specifies prices of various models and ages of box for "as is," "unreconditioned," or "reconditioned" state.

Industrial and Commercial Refrigeration and Air Conditioning Equipment and Machinery, (Limitation Order L-38): This order, effective May 15, prohibits the distribution of all such unused equipment, except to fill a Preferred Order. Producers, dealers, and other authorized persons may not sell, lease, trade, lend, deliver, ship, or transfer such unused equipment except to other producers, dealers, and authorized channels of distribution for resale.

During the period May 15, 1942, to June 20, 1942, no producer shall produce any item of refrigerating and air conditioning equipment in excess of the greater of (1) The number of such item for which the producer has on hand unfilled preferred orders; (2) The number of such item delivered on preferred orders during the period April 1, 1942 to May 15, 1942.

During any calendar quarter, commencing with the calendar quarter beginning July 1, 1942, no producer shall produce any item of refrigerating and air conditioning equipment in excess of the greater of (1) The number of such item for which the producer has on hand unfilled preferred orders; (2) The number of such item delivered on preferred orders during the next preceding calendar quarter.

No producer shall acumulate for use in the production of such equipment inventories of raw materials, semi-processed materials, or finished parts in quantities in excess of the minimum amount necessary to maintain production.

Electric Ranges (Limitation Order L-23-b): After June 1 no domestic electric ranges may be produced except to fill orders bearing a preference rating of A-1-k or higher. In order to provide for Army, Navy, and lend-lease orders, L-23-b forbids the sale, lease, or transfer of any domestic electric range except on a preference rating of A-9 or higher or upon specific authorization by the Director of Industry Operations. Stocks were frozen May 2.

Liquefied Petroleum Gases, (Limitation Order L-86): Gas utilities and others serving liquefied petroleum gases either through central plants or bottled gas service come under the jurisdiction of this order. (*GAS*, May, 1942, p. 25).

Director of Industry Operations J. S. Knowlson in Interpretation No. 1 of this order clarifies the meaning of subparagraph (d) (3), by stating substantially that liquefied petroleum gas equipment installed and in use before April 1, 1942, but withdrawn from use after April 1, 1942, is not governed by the restrictions of the order.

Conservation of Materials for the Oil Industry (Conservation Order M-68-c): This order, as amended March 23, was further amended May 21 by the addition of the following paragraph:

"(i) The provisions of this order shall be applicable to deliveries of material by any person located in the United States, its territories and possessions to any other person located in the United States, its territories and possessions, or the Dominion of Canada, but not elsewhere. The

Showing the value of scrap metal salvage when converted into war munitions, an effective window display is being used by the Pacific Gas & Electric Co., San Francisco, in its various district offices. The display shows a collection of waste material, such as zinc, tin, lead, steel, iron, brass and copper being swept up by a broom and the shrapnel and high explosive shells to which it will be converted.

provisions of this paragraph supersede Interpretation No. 1 of this order, issued February 7, 1942."

Fuel Oil, (Limitation Order L-56): This order was amended May 13 to restrict the deliveries of fuel oil to areas along the Atlantic Seaboard and to Washington and Oregon for use in the operation of (1) coal spraying equipment, (2) space and central heating and cooling equipment, (3) domestic and commercial water heating equipment, (4) additional facilities or converted facilities. In addition no oil can be delivered to consumers having standby facilities, unless such standby is being operated to take the place of a consumer's fuel oil burning facilities to the greatest possible extent, thus effecting maximum reduction in requirements for fuel oil.

M-114: In an order issued May 5, the WPB cancelled all priority ratings attached to orders for fuel oil, except for ocean-going vessels.

Transportation Conservation: The Office of Defense Transportation in General Order No. 6, effective May 15, prohibited special deliveries and "call backs," limited the number of deliveries and the mileage of local delivery carriers. Excepted from the order (among others): vehicles operated exclusively for the construction and maintenance of gas service.

The Sales Front

The Gas Service Co., Kansas City, Mo.: What to do about salesmen who no longer have anything to sell is a question plaguing many companies today. One solution has been attempted by the Gas Service Co. They are sending their salesman out to make house-to-house calls in which they make minor adjustments on appliances and explain how the consumer can best conserve the equipment now in service. The need for such activity in these times is well illustrated by the experience of one salesman. Making a call, he was surprised to learn that a woman who operates four light housekeeping apartments, misunderstanding the announcement about Limitation Order L-31, thought she could not use gas for any purpose this coming winter, and accordingly was disposing of her gas appliances and replacing them with oil-fired units. One range had already been replaced when the salesman called and corrected the error. In addition to explaining government orders and adjusting appliances, the salesmen also keep records of the condition in which they find the appliances. These lists can then be used for an intensive selling campaign when appliances are once again available.

Southern California Gas Co., Los Angeles: That War Production Board Limitation Orders restricting the sale of gas appliances would likely cause a larger reduction in the company's sales force than had been anticipated was recently explained to these employees by W. M. Jacobs, general superintendent of sales. This group was asked to express its preference, by secret ballot, for either job seniority or company seniority in effecting the layoffs and reclassifications, according to "Gas Newsweek," new bi-monthly magazine of the company. The department voted for company seniority, and all changes will therefore be based upon the employees' length of service with the company. Reclassification of sales department employees qualified for openings in other departments is under way.

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Employees Buy Bonds

The Treasury Department, Washington, D. C.: On May 1 the Treasury Department launched an intensive bond drive with a letter from the Secretary to the heads of business firms throughout the country urging them to voluntarily institute a payroll deduction plan for stamps and bonds.

Hudson Valley Fuel Co., Troy, N. Y.: This company was the first in the Hudson Niagara Power System to go over the top with 100% participation in the payroll deduction plan for the purchase of stamps and bonds each payday. All 400 employees signed up to enlist their dollars for the duration.

Central Illinois Light Co., Peoria, Ill.: In the May 1 issue of the *Cilco News* the announcement was made that the majority of the employees are not taking advantage of the pay-roll allotment plan and it was suggested that all personnel review their purchases and consider increasing the amounts they are now deducting.

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Public Relations

Michigan Consolidated Gas Co., Detroit, Mich.: On the air went Consolidated's superintendent of distribution, L. K. Richey, over station WWJ recently to publicly answer the questions most frequently asked by customers. Among them were:

Question: What do you consider the primary function of the gas company in cases of bombing raids?

Answer: The gas company's responsibility lies primarily in keeping a supply of gas in the mains for its customers. Its duty would be to make repairs promptly in cases of damage and to make certain that gas service is restored in a safe manner wherever it has been interrupted.

Question: In what ways could a gas customer aid in this work?

Answer: The advice which we give our customers is that they should do nothing but turn off the top burners of their ranges if an air raid alarm is sounded. If a building is badly damaged, or if the gas supply is interrupted, the meter could be shut off if it is accessible.

Other questions were: Is there a shut-off for each meter? Why do you advise your customers not to shut off the gas? How well is the company prepared to make repairs rapidly? Is natural gas poisonous? Should your customers call the gas company in cases of damage from bombs?

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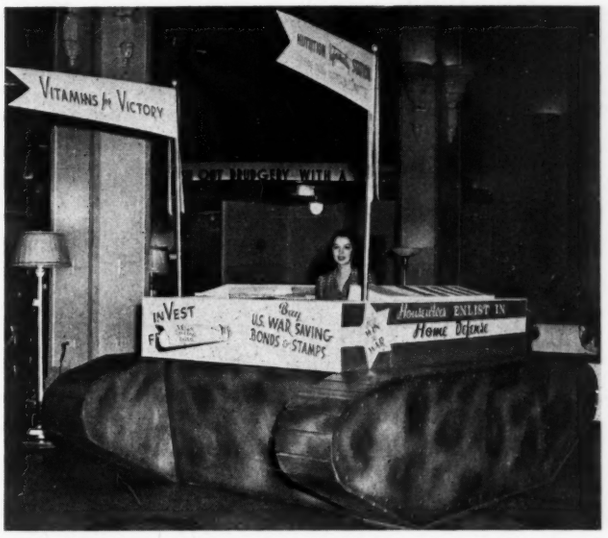
Home Defense

The Brooklyn (N. Y.) Union Gas Co.: More than 2000 volunteer workers at Brooklyn Union are engaged in the task of placing air-raid instruction tags on the gas meters of more than 200,000 one and two family dwellings served by the company. The tags bear instructions for turning on the gas.

San Francisco, Calif.: Two hundred and fifty gas fitters and plumbers in this city have voluntarily formed a Home Defense Volunteer Squad which is trained in emergency repair of gas mains, water mains, sewer lines and in emergency first aid to persons. Under this plan, each man has equipped his trucks with a minimum set of tools as specified, with the tool chest being inspected and approved by the San Francisco Master Plumbers Association, and a qualified Red Cross first aid kit for the treatment of burns, wounds, shock and other injuries likely to result from bombings. The members of this squad have all taken and passed the Red Cross classes in emergency treatment of accident victims. Their cars bear special plates carried above which read, "Red Cross Rescue Squad —Plumber-Gas Fitter."



Housewives on the home front in New Orleans, La., are receiving a barrage of information on how to serve "Vitamins for Victory" from this war-like tank on the street floor of the New Orleans Public Service, Inc.

Vitamins for Health

Natural Gas Companies Serving the Greater Pittsburgh Area, Pittsburgh, Pa.: Using informal, human interest appeal in art and copy, the newspaper campaign sponsored cooperatively by the Pittsburgh natural gas companies has been achieving results. Already more than half a dozen in the series of advertisements have appeared. Informal layouts with headlines sketched in on the illustration much as the housewife herself might jot them down on her grocery list has proved to have wide appeal. Featured also are a series of slogans such as: Save all the Vitamins *You* Pay for; Vitamins are Today's Defense Bonds of *Health;* and Save Vitamins for *Maximum* Nutrition. The ads also incorporate a box in which specific cooking hints are printed. One advertisement used three such cooking tips: 1. Cook with ½ to 1 in. of water in covered pan. 2. When steaming starts, turn gas to low flame. 3. Use liquids not absorbed by vegetables—they contain valuable minerals and vitamins.

New Orleans Public Service, Inc., New Orleans, La.: The home service division of this company has worked out an unusual approach in the promotion of balanced diets. Two booklets have been issued, one containing a listing of the "surplus foods," builds its menu suggestions around these food items, and the other, called "Budget Stretcher Menus for Victory," presents menus using inexpensive food items. Both of these publications stress the fact that costly foods are not essential to vitamins, and that the low cost items, if properly selected and cooked, can yield a balanced diet for American families, also. These booklets, together with other vitamin information, are distributed to consumers from a novel "armored tank" situated on the company's main floor. (See cut above.)

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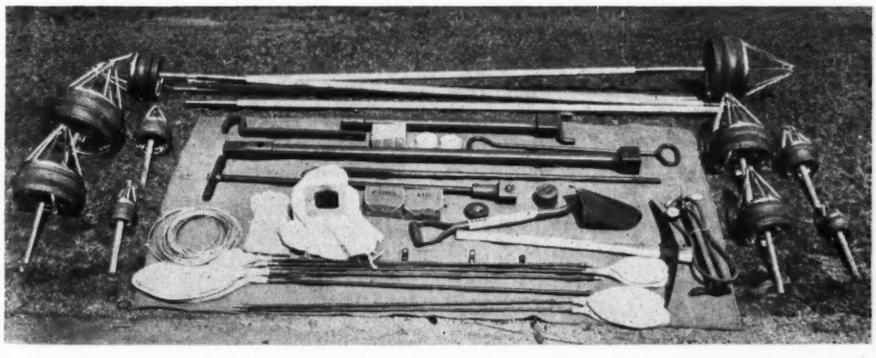
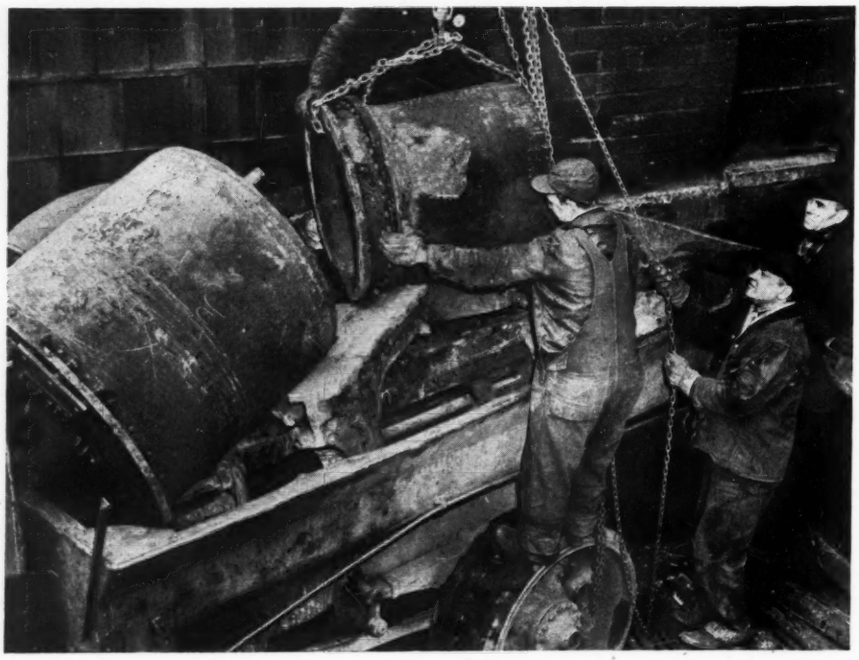
Metal Salvage

Rochester Gas & Electric Corp., Rochester, N. Y.: Feeling that a scrap metal recovery program is equally as important as the conservation of raw materials used in gas production processes, the company has worked closely with the local salvage committee and gathered over a million pounds of metal since December 7. And, according to A. M. Beebee, superintendent of the gas department, the work is still going on. The general principle that it is more important to obtain raw materials now than to save equipment for possible use at a future date has governed their decisions as to what equipment can be junked. Among other things, the company is scrapping an



View of equipment carried in one of Brooklyn Union Gas Co.'s Defense Corps Squad Cars. Shown are several sizes of conical-shaped plugs, poles for use in forcing them into broken mains, wrenches for closing street valves, canvas-covered rubber bags of varying sizes for use in bagging off mains, a pump for inflating the bags, asbestos helmet and gloves, a pick and shovel, laundry soap and adhesive tape for temporary repairs of small leaks, a measuring tape and first aid kit.



Huge castings add their weight to the total of 1000 tons of metal obtained in scrapping the old retort house which had become obsolescent. This load is just nine tons, which the company explains "makes a nice bomber load to drop on Hitler, Benito or Hirohito."

old gas retort house. This alone is expected to yield a thousand tons of metal. Old furnaces, boilers and pipe have also been contributed, and the "boneyard" in which obsolescent equipment had been piled has long since been cleaned out. (See cut above.)

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Employee Rehiring Rights

Southern California Gas Co., Los Angeles: Changes in the company's employee relations policy to extend rehiring rights for those employees laid off due to the war situation were announced recently, according to "Gas Newsweek," now bi-monthly magazine of the company. Formerly, an employee's right to be rehired after a layoff due to lack of work lasted for two years. The new policy will extend the rehiring right for the duration of the war and date the time limit from the end of the war. Employees subject to layoff will be given the opportunity to be reclassified for work they are capable of doing in other departments of the company. Employees in the path of a layoff may look for work outside the company, and if they secure such work, their rehiring privileges will be held in force exactly as if the formal layoff had actually occurred. Men entering the armed forces preserve their full status as company employees. No leaves of absence will be granted employees not subject to layoff who desire to work elsewhere for the duration and then return to their company jobs.

Ruling on Advertising Cost

Advertising to the consumer is not an "admissible cost" of performing Army or Navy production contracts for the Government, according to a booklet, "Government Contract Cost Determination," issued last month. The underlying principle is that "As a general rule advertising is an inadmissible item of cost, on the reasoning that advertising is not required in order to do business with the Government."

An exception, however, is made "For certain kinds of advertising of an industrial or institutional character, placed in trade or technical journals, not primarily with the object of selling particular products but essentially for the purpose of offering financial support to such trade or technical journals because they are of value for dissemination of trade and technical information for the industry and not really an advertising expense to effect sales so much as an operating expense incurred as a matter of policy for the benefit of the business and the industry."

Further in the text consumer advertising is again said to be inadmissible as costs of performing such production contracts as are awarded by the Army, Navy and other defense agencies.

The booklet, the Government auditors' guide in approving war production bills, is available from the Superintendent of Documents, Government Printing Office, Washington, D. C., for a dime.

WPB Decentralizes

Decentralization of WPB activities throughout the Nation was announced May 12 by James S. Knowlson, Director of Industry Operations, with the issuance of orders and regulations officially setting up 13 regional offices and vesting broad authority in the regional directors.

The broad duties to be assumed by the regional directors are given in section 2 of the administrative instructions, which says:

> It is intended that the decentralization of War Production Board activities shall be progressively developed to the end that, so far as practicable, the work of the War Production Board in Washington shall center in policy determination, program planning, the institution of major procedures and general coordination, while the day-to-day operations shall be conducted through the regional offices.

The 13 regional offices established are: Region No. 1 Boston; No. 2 New York; No. 3 Philadelphia; No. 4 Atlanta; No. 5 Cleveland; No. 6 Chicago; No. 7 Kansas City; No. 8 Dallas; No. 9 Denver; No. 10 San Francisco; No. 11 Detroit; No. 12 Minneapolis; No. 13 Seattle.

Six regional directors have been appointed. They are: Orville H. Bullitt in Philadelphia, Ernest Kanzler in Detroit, Frank H. Neely in Atlanta, John C. Virden in Cleveland, Joseph L. Overlock in Chicago, and Walter H. Wheeler in Boston.

The new step involves replacement of the former Bureau of Field Operations established on February 12. Regional directors will report to the chairman of the War Production Board through the Director of Industry Operations.

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OPC Natural Gas Division

Harold L. Ickes, Petroleum Coordinator for War, has announced that the natural gas and natural gasoline division of the Office of Petroleum Coordinator has been reorganized to function in the same manner and operate on the same level as the other OPC operating divisions. Its functions will now parallel the production, refining, transportation, and marketing divisions. The natural gas and natural gasoline section had formerly operated under the production division.

This division will handle problems in discovery, production, distribution and transportation of natural gas utilizing critical materials, and will cooperate with other federal agencies. It will also deal with the use of natural gas and gasoline in aviation fuel, synthetic rubber, and toluene, including

construction of natural gasoline extraction plants.

While complete personnel of this new division has not yet been fully decided upon, it was stated that Paul Raigorodsky, Thomas Weymouth, Frank Brewster, Virgil Bowyer, Robert Drucker, James Pew, and D. E. Buchanan will continue to serve.

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Well Abandonment

In a formal recommendation (No. 47) Harold L. Ickes, Petroleum Coordinator for War, directed that no oil or gas well be abandoned until the well is incapable of producing enough oil or gas, or both, to pay costs of labor, maintenance or repair, and taxes.

No oil or gas well may be abandoned when operating expenses can be met, unless the production of water from the well tends to diminish the ultimate recovery of petroleum from a reservoir. Except when abandonment is permitted under the recommendation, casing or equipment shall not be salvaged from a well if such action will result in the isolation and loss of the remaining reserves in a reservoir.

Notice of intent to abandon a well capable of producing more than one barrel of crude oil or 6000 cu. ft. of natural gas daily should be filed with the District Director of Production at least 30 days before abandonment operations are scheduled to begin.

This notice must be filed in the district in which the well is located and on an OPC form provided by the district office. If no disapproval notice is received from OPC by the operator, he may proceed with abandonment.

A well actually incapable of production because of depletion of a reservoir or because of failure to find oil in commercial quantities may be abandoned, provided that the operator conforms with state regulations. Where there is no state regulatory authority, abandonment procedures must be in accordance with recognized engineering principles. Prompt use must be made of material and equipment salvaged from abandoned wells.

The Petroleum Industry War Council last month took action on a resolution requesting that Recommendation No. 47 be rescinded. Reasons stated were that it is not the practice of the petroleum industry to abandon wells, the operation of which may be economically sustained, and that Recommendation No. 47 not only is unnecessary and will serve no useful purpose in the war effort, but that it will bring inconvenience and burdensome administrative difficulties to the industry.

Rubber Production

Washington, D. C.: Utilizing natural gas, coal, wood, and grain, Dr. Glenn L. Casto, Spencer, W. Va., dentist, has developed a method of making a rubber substitute which shows such promise that a pilot test plant is being constructed to determine the practicability of its manufacture on a commercial scale. Dr. Spencer claimed to have made a tire from the substance which has already run 4300 test miles, and has retreaded another tire with it that has traveled 10,000 test miles and still has one-third of the tread remaining. The experimental work has been privately financed. It is claimed that plants for mass production could be constructed quickly, and that their building would require little of the critical war materials of which there is a shortage. It is also claimed that the product could be manufactured cheaply by quantity methods.

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Range Conservation

Pacific Gas & Electric Co., San Francisco, Calif.: In cooperation with the Red Cross, this company has been giving a series of lectures on the care of gas appliances in the home. Talks have been given at various centers, including Alta Plaza, St. Francis Woods and Vicitation Valley. The talks also include instructions on the use of appliances during air raid alarms.

Southern California Gas Co., Los Angeles, Calif.: Stressing the thought that the care and conservation of household appliances must be a part of the homemaker's contribution to victory, Gladys B. Price, director of the home service department, has spoken as a guest of Marion Manners, Los Angeles *Times* home service editor, at her regular midweek cookery matinee. Miss Price titled her talk, "Save Your Gas Range," and explained how to keep the home fires burning under meat and vitamin vegetables.

Lone Star Gas Co., Dallas, Texas: Albertine Berry, head of the home service department, appeared before the Consumer Information Center of Dallas to lecture on care and conservation of gas appliances. The Consumer Information Center presents weekly programs on a variety of home topics for the homemaker.

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Asphalt-Sand for Barricades

Sand bags for barricading important buildings in San Francisco against air-raid damage are being filled with a combination of sand and asphalt, rather than sand alone.

The mixture is highly resistant, the San Francisco Department of Public Works reports, can be tamped into shape, and most important, within a short time becomes so stabilized that it will not run or disintegrate when the burlap bags are cut or rot away.

A very small amount of asphant cement, about 3%, is mixed with fine sand. The mixture is heated with regular asphant-heating equipment, and can be sacked by a two-man crew at the rate of 200 bags an hour. The sacks are filled only to about 60% of capacity, with approximately 160 lbs. of the mixture, so that plenty of free play is left for tamping into position in the barricade.

Sand bag barricades have needed frequent replacing, particularly if the sand was wet, because the burlap rotted quickly and the sand ran off.

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What's Cookin', Soldier?

Whatever it was . . . members of the Portland (Ore.) Gas & Coke Co. organization made sure it was "cooking with gas!" They presented two ranges for the newly opened four-story George A. White Service Men's Center in Portland. Margaret Hegeberg and M. J. Casey (right) reported back to fellow associates in the gas company that the ranges are doing a grand job of turning out "snacks."

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Appliance Servicing in War Time

(A Symposium)

TODAY'S TRENDS

• J. M. McCALEB, gas engineer, Citizens Gas Utility, Indianapolis. Abstract from paper, "Trends in Appliance Servicing."

THE subject of "Trends in Appliance Servicing" is one that bears scrutiny from time to time. It cannot be static, and because of its complexity, it must change to meet varying or unusual conditions.

The subject was studied in 1939 and a comprehensive report submitted by the Appliance Servicing Committee for that year.* The report showed quite clearly the trends at that time and was based on attitudes evidenced then and as far back as 1934. At the organization meeting of this year's committee, held in October, 1941, it was decided to restudy the subject. There were many reasons for this restudy and some of the thoughts brought out in discussion are mentioned as follows:

The problem of rapid change in the design of appliances, notably the CP range.

A. Streamlining of appliances for sales appeal, causing more difficulty from a standpoint of servicing and accessibility.

B. The inclusion of the sales slant on the servicing problem.

C. The desire to obtain higher efficiencies through better combustion.

The problem of changed operating conditions due to changed world conditions.

A. Total amount of service required will increase as a result of aging of present equipment, especially if no replacements are available.

The problem of investigation of the elements causing the cost of service and an analysis of this investigation. It will be very beneficial in formulating and keeping up-to-date servicing policies.

A. The importance of bringing to management's attention increased costs due to the adoption of certain policies.

B. All servicing policies should be clear-cut and thereby understandable by all concerned.

The problem of the small dealer going out of business due to lack of merchandise and manpower.

To collect suggestions on these ideas it was felt that it would supplement the 1939 report and be of value to the industry in general if a questionnaire were prepared and sent to all members of the Sales and Service Relations Committee. The answers represented opinions expressed by straight gas companies distributing natural, mixed and manufactured gas, and combination companies.

*Recent trends in appliance servicing policies. Commercial Section A. G. A., 1939. Interim Bulletin No. 48.

The paramount question in the minds of the companies queried appeared to be that of increasing servicing costs. Not all companies agreed on the causes of this increase, but all recognized that the problem is present. Chief causes were considered to be:

1. The failure of the accessories or "gadgets" on the equipment.
2. The failure of proper instruction to the customer when they receive the new appliance.
3. Lack of proper training of service men.
4. Actual distribution troubles from the standpoint of impurities in the gas and poor pressure conditions.
5. Careless promises made by salesmen because of lack of understanding between sales and service departments.
6. Increased time required to service modern streamlined appliances.

These, of course, are only some of the major points. They well illustrate, however, the fact that most companies do not actually know why service costs are increasing. Until they do know, it is almost impossible to do much about it. Due to the difference in companies as to location, structure, size and method of operation, no general suggestion can be offered on the basis of the questionnaire response as to the method to use in determining the reason for the increase. But it can be definitely said that this must be determined accurately before policies are decided. If, for instance, it is determined that costs are increased because of distribution troubles, then a decision should be made either to accept the increased cost or correct the system. If it is found that the increased costs are occasioned by an extremely liberal service policy, this should be recognized and taken into consideration when dealing with the service problem. If it is found to be failure of the equipment, accessories, or inaccessibility due to design, this should be taken up with the manufacturer and corrected, or the increased cost of service recognized.

Usually the increased cost of service cannot be confined to any one of the above mentioned items. It may include several, and when that condition arises, the problem becomes more complex. But under any circumstances, it must be thoroughly analyzed before a satisfactory answer may be obtained.

No mention has heretofore been made of the increase in labor rates. It is felt that this is a universal condition and will be recognized as such. However, one company did report that they were able to offset, partially, wage increases by intensified training schools for their service men.

The industry is definitely faced with unusual conditions during the present emergency, and the questionnaire attempted to determine some of the trends due to this condition. Although results were not complete on this score, information can be given on some things. Several companies reported increased service costs due to the use of substitutes and inferior materials. This must be recognized as a temporary condition and should be handled individually by each company.

It was the opinion of several companies that if salesmen are used, either in service departments or in making field surveys, service costs will undoubtedly increase, but it may be worth the increase to keep the sales groups intact. The questionnaire definitely indicated that if small businesses are forced out of existence because of lack of merchandise and manpower, more servicing effort will be required from the utilities. There is also the possibility of large merchandising organizations being eliminated because of the lack of merchandise. This also may add to the servicing expense.

Probably the most evident changes in appliance servicing policies, as shown by the questionnaire, are the increased trends toward charging for service and the elimination of certain services. Numerous companies reported changes in their policies in regard to charging for free service. Practically all were charging for some work heretofore given free, and some were deleting certain services, particularly in house heating and commercial application.

As mentioned before, a complete analysis should be made of the factors contributing to the cost of service and then, if it is deemed advisable, charges should be considered. It is not possible to record all of the changes in this report, but because of the trend toward more charges, the experiences of several large companies are indicative of what is being attempted. Bear in mind, even though these cases represent actual operations, competition, rates, and cost of fuel should decide the schedule of charges.

One company reports that by the end of 1940, because of a rather liberal free service policy, free service expense had passed the $100,000 mark and it was thought necessary to take steps to reduce this figure. A complete analysis of this expense was made, and it was decided to adopt a policy of charging for service.

In considering such a program there were two questions involved. For instance, how far is it possible to go in offsetting a portion of the increased service expense by charging the customer for labor and replacement parts on appliances out of the warranty? Should increasing expense be offset by eliminating the 15-minute free service policy and charges made for all appliance servicing calls? In answer to the last question it was the opinion that a charge for minor service calls would bring about the loss of good will, dissatisfaction with the appliance, and possibly dangerous or hazardous operating conditions. This would naturally result in the loss of revenue and would furnish inroads for competition.

The opinion having been held that a 15-minute free service policy on the adjustment of burners for combustion, checking house lines for leakage, or furnishing an adequate pressure and supply of gas was a sound policy if not abused, the only alternative then was to charge the customer for all labor and material or parts over the 15-minute period.

REDUCING COSTS

• J. M. PICKFORD, assistant to supervisor of gas operations, Northern Indiana Public Service Co., Hammond. Abstract from paper, "The Operation of Service Departments During the Present Emergency."

ANOTHER large company in the east is conducting an experiment on reducing servicing expense and transportation miles by a greater use of telephones as a means for explaining to customers how to correct minor difficulties. Crews respond immediately to reports of leaks, fires, asphyxiations; but for ordinary service calls enough time is allowed for mapping routes.

Another large Ohio company has stored a certain number of its cars and has eliminated the "fire alarm" or four-hour service except for emergencies. Complaints are accumulated for one and two days and routed so as to reduce mileage. This company further has instituted policies for charging for service beyond 15 minutes.

Some companies are turning more work over to dealers. Dealers may be receptive at this time to various plans for them to take over a certain amount of servicing. This may be worth while from the standpoint of keeping the dealers in business and in reducing servicing expenses.

A company in the east found that the replacement of enamel parts was rapidly becoming more expensive. They found that 33% of the new ranges necessitated service calls for enamel within the first year. Their policy was to replace free during the first year and anything over 30 days was charged to work on customers' premises. The present free replacement is for 60 days in place of a year.

Another large Pennsylvania company has reduced its free inspection of home heating equipment to 18 months and stops the free service at burner and controls.

A company in Ohio visited its 150 space heating customers and told them that present conditions required a curtailment in the free inspection service, but that it could render certain kinds of service on a charge basis. Forty-nine of the customers responded by signing orders for service on a charge basis.

Servicing costs are being reduced through the use of pilot filters in several companies. Increased loads have in some instances caused increased pilot difficulties due to velocities of gas in the mains.

In the Southwest, one company reports that employees use railroad, bus, taxicab, and rent-a-car facilities whenever possible in the course of their work. Dispatchers for transportation are used so as to systematize the work.

The zone system for servicemen has for years been used by several of our districts, and this system is finding increased usage throughout the country because it lends itself favorably to a reduction in traveling miles.

Thought is being given by a number of companies to classifying the calls as to urgency and then routing them accordingly. The question of hazards and continuity of service must be thoroughly considered. Pre-arranged routing will result in a reduction of miles driven.

We have discussed the factors influencing kind of service, the problems today, what some companies are doing, and the importance of proper records. The following is a summation of items being considered by various companies in meeting today's conditions:

1. More use of telephones.
2. Improved training methods for servicemen.
3. Employment of higher types of servicemen.
4. Reduction in free work—charging for certain kinds of service.
5. Servicemen reading meters and meter readers doing servicing work.
6. Reference of certain kinds of service calls to other agencies.
7. Routing of service orders so as to reduce mileage and lost motion.
8. Elimination of two men where one can do the work. The use of a fitter and a helper for some jobs is being reduced.
9. Elimination of service orders being created to obtain customer good will.
10. Study of output per man.
11. Analysis of repeat orders.
12. Proper diagnosing of initial service call. In home heating, use of technical men in service departments.
13. Use of proper tools for servicemen.
14. Reduction of free work for cleaning appliances, for changing meter locations, for relocating appliances, for setting unnecessary sub-meters, for changing washers on leaky water faucets, for light-ups or shut-offs, for inspection of customer appliances, etc.
15. Proper shop testing of appliances so that initially the appliance is in good working order with proper inputs, etc.
16. Standardization of appliances.
17. Standardization of best practices for servicing.
18. Pressure and meter charts removed less often by changing the gearing on the recorders.

The trend to date is to render good service and to counteract increased servicing costs by increased efficiency in service departments through the use of a utilization department, proper training of servicemen, study and analysis of completed service calls, and proper diagnosis of initial service request.

The utilization department schools not only train the men in standard and proper methods of servicing, but they turn up servicing items wherein savings are being effected. For example:

1. Servicemen, meter readers and salesmen creating unnecessary service orders. A study revealed that in the majority of cases the appliance merely required some very minor adjustment.
2. Insufficient tools — particularly on refrigerators.

PLANS TO OFFSET obstacles in the way of good service were discussed May 11, 1942, before the Indiana Gas Association meeting in Indianapolis, Ind., by J. M. PICKFORD, assistant superintendent of gas operations, Northern Indiana Public Service Co., Hammond, and C. A. PETERSON, superintendent of customers' division, and J. M. McCALEB, gas engineer, Citizens Gas Utility, Indianapolis. A review of activities on the Pacific Coast is presented in the excerpts from a paper, "Adjustment of Customer Service to War-time Conditions," presented before the Technical Section meeting of the Pacific Coast Gas Association in Los Angeles, May 21-22, by D. C. ELLSWOOD, Southern California Gas Co. Restrictions on tires and cars, lack of materials now diverted to war uses, and a decreasing number of dealers active in the appliance business were described as prime factors in the situation facing all gas utilities today. This article presents a GAS staff summary of the most pertinent observations contained in the series of four papers. — Editor.

3. Overemphasis on setting of sub-meters as a means of appeasement.

4. Wrong impression by servicemen of servicing policies, such as regular cleaning of backs of refrigerators free.

5. Replacement free of washers on hot water faucets in certain localities.

6. In shop testing refrigerators, desirability of smoothing orifice to reduce service calls from fluctuating flames.

7. Relocating meters is a costly item and occurs much too frequently.

8. Schools revealed need for training servicemen in the fundamentals affecting combustion and operation of controls. Repeat calls are being reduced because men can determine the real cause for complaint more readily.

9. Schools indicated reasons for certain districts' servicing expenses being out of line.

10. Schools offered a means to the smaller district men to familiarize themselves with servicing methods as practiced by specialists in the larger districts.

11. Methods and substitute materials are explained to men after being carefully studied in the laboratory.

PACIFIC COAST SURVEY

• D. C. ELLSWOOD, assistant to utilization engineer, Southern Counties Gas Co., Los Angeles. Abstract from a paper, "Adjustment of Customer Service to War-time Conditions."

IN ORDER to present a picture of what some of the various Pacific Coast utility companies have done, or may have considered for the future, a questionnaire was sent to eight companies operating in the western states. The questionnaire covered general customer service, inspection orders, meter sets, turn-ons and turn-offs, and appliance parts replacement service. While mileage curtailment studies were still fairly new at this time, it was felt that at least an idea could be gained of the present trend of general thinking in the neighboring companies.

Three of the seven companies have a definite time limit within which orders must be issued and completed; the other four are completing all orders, except emergencies, when convenient and in the order received. Two of the three companies having a definite time limit do not hold orders for a given district until routing insures maximum coverage, but instead tell the customer they will be there on a certain future day.

Three of the seven companies route all types of orders in an area to a serviceman to get the most work done on a minimum mileage basis. It is noteworthy that these three companies operate in territories having more scattered communities and towns. Only three companies check all types of orders against their records for possible additional work required on the premises, so, for example, servicemen will make a routine old age meter change also when calling on a customer.

One of the big service problems that will have to be faced is how to take care of routine seasonal service, such as starting up heating installations. Four companies indicate they will accept all orders as in the past. Three indicate they will hold orders for a high concentration in one area. This, in some cases, will require holding over for a several day period. Five indicate that servicemen should be instructed to light furnace pilots on all service calls during early autumn. One company already refers some calls to furnace dealers and another company is considering it.

Two companies train counter clerks and dispatchers in appliance operation so they may assist the customer over the telephone in making minor adjustments, such as resetting safety pilot buttons, setting range clocks back to manual operation, relighting refrigerators, etc. Two other companies express the thought that it is a practical idea if the counter clerk is a former serviceman.

Two companies have discontinued training courses entirely, three have reduced the number of man classes per month, and one has increased it. Two of the companies serving extended areas have decentralized their classes so that the instructor does the traveling rather than the men. Six of the companies report that they are not training sales personnel to replace servicemen who are leaving; the seventh does not merchandise.

Three companies now have servicemen in the field using means of transportation other than automobiles, and a fourth is considering it at the present time. Two companies are using bicycles, one motor gliders, and another using both public and group transportation with the servicemen walking to the customers' residences in their area. All the companies which are using

STATISTICS GATHERED BY ONE COMPANY IN STUDYING SERVICE COSTS

Classification of Service Calls

In June, 1941, 9,022 service calls were classified as follows:

Low pressure	82	1%*
No gas	78	1%
Leaks on customers' premises	1,028	11%
Ranges	3,422	38%
Refrigerators	914	10%
Water heaters	1,427	16%
Space heating	865	9%
Other appliances	123	1%
Repairs within guarantee	293	3%
Job order repairs	126	1%
Install dealer appliances	215	2%
Service bill inquiry	195	2%
Miscellaneous	254	3%

*Approximate percentages.

Average Service Order Per Customer

Appliance service orders per customer:

	Sept.	*Oct.*	*Nov.*	*Dec.*
Ranges	.031	.032	.029	.028
Refrigerators	.062	.074	.....	.....
Space heating	.58	.437	.34	.31

Space Heating Pilot Light Calls

Pilots lighted on space heating equipment:

August	*September*	*October*
118	1,196	691

Out of 3,470 jobs, 57½% were lighted by the company.

Appliance Statistical Notes

Ranges

In November, 1941, range orders equaled 45% of the total, and of the range orders half were for burner adjustments.

In February, 1942, out of 6,531 service calls, 1,279, or about 19½%, represented range burner adjustments.

Refrigerators

In 1941, refrigerator service calls averaged 0.88 per refrigerator customer.

In August, 1941, out of 8,453 orders, 953, or about 11¼%, were on refrigerators.

Space Heaters

In January, 1942, 14.4% of the service orders were on space heating. Of the 127,550 customers, 3,808 are space heating customers, so about 3% of the customers accounted for 14.4% of the service calls.

Space heating expenses since July 1, 1941, averaged $0.85 per customer per month.

means other than cars have found it necessary to reduce the tool equipment carried by the servicemen. This has necessitated a few additional follow-up calls to complete the work, but apparently not to any great extent.

Six of the group do not make call-backs where the customer was not home, waiting until the customer again requests service. This is a new procedure for two companies which formerly made two to three return calls in an effort to complete the order.

All companies are maintaining their past procedures on inspections, except that two companies are omitting taking house line pressure except on specific complaints. Five of the group report that no follow-up is made where the customer has been notified of the existence of a small leak which was left unrepaired. This is a new procedure for two of the group.

All of the group reported they had eliminated a fair portion of their voluntary or routine inspections. This applies particularly to those made at commercial and industrial establishments, at schools, and on residential heating equipment. Those who indicated that this was put into practice due to the emergency have cut calls on commercial and industrial establishments approximately 50%.

With regard to meter setting and changing, and turn-ons and turn-offs, a few figures may be of interest. Four companies set the meter at the time the service is run and leave it shut off if the customer is not ready for gas service. Three of the group do not set the meter until the customer is ready to be served. Some car mileage savings does result in pre-setting the meters, because the turn-on man can then make his call on a bicycle or by other means. Six of the group leave inactive meters set anywhere from 90 days to a year, but this was their practice before the emergency, so would account for very little saving unless the time interval has been extended. Five of the group indicate that routine meter changes are made by the serviceman when he encounters an old meter on his assignment. This practice will undoubtedly change as other means of transportation than cars are used more frequently. Two of the companies at the present time send out several men as a crew who make meter changes from one truck. To do this requires careful routing so that only concentrated areas will be chosen. Small single man trucks clean up scattered territories. One of these companies has one member of the crew who makes arrangements with customers in the area for the next day's changes. Considerable time is saved and very few meters have to be left off.

Indications are that more changes have been made in the turn-on procedures of the group than in any other single item. Six of the group do not commit themselves on a turn-on to a definite hourly time on a future date, other than to designate service will be given in the morning or afternoon. Turn-ons will not be made after a fixed hour for any day, and four do not accept turn-ons for the day the order is taken except for emergencies.

This means that after-hours and holiday and Sunday turn-ons are practically a thing of the past, except in resort areas where this is considered regular service on straight time. The group with one exception adjusts all appliances when the turn-on is made. This is an excellent practice as it saves early call-backs for adjustment service. No company at present insists that all the appliances be connected before service is started. The general rule is that at least one appliance must be connected to permit a check of gas flow and pressure.

Four companies have a definite time limit within which turn-off orders should be completed. Two will delay orders three or four days, if necessary, to fit into dispatcher's routing schedule, and three of the group will make a special trip for a turn-off where the customer wants to pay bill before mov-

The companies reported on car mileage as follows:

Company	*Percentage of Total Car Mileage Charged to Customer Service in 1941*	*Estimated Percentage Saving of Service Mileage for 1942 by Change in Practices*
1	19%	50%
2	40%	50%
3	30%	25%
4	20%	25%
5	Not given	Not given
6	Not segregated	30%
7	6.37%	31%

The appliance parts-replacement service practices of the various companies are pretty much in conformity. Five companies give general parts replacement service and two restricted service, but indications are that more stringent measures are being taken to decrease this service. Five of the group charge for parts, labor, and mileage (one of these charges labor only in excess of one hour) on all dealer-sold appliances and on company-sold merchandise beyond the warranty, except promotional appliances. One company makes a charge for the part only regardless of whether it is a dealer or company sold appliance.

Three companies are now attempting to order only essential operating parts, such as controls, valves, etc.

It is interesting to note that only one company has as yet had much difficulty in obtaining parts, although this may soon become a pressing problem.

REPEAT CALLS

• C. A. PETERSON, superintendent customers' division, Citizens Gas Utility, Indianapolis. Abstract from paper, "Review of Appliance Servicing Committee."

ONE of the worst offenders to a service organization is a repeat call. Repeat calls are not all justified and are not all necessary. The committee felt that the percentage of unjustified repeaters was in heavy balance against the necessary ones and quite some time could be spent on the study of their elimination. In attacking the problem, three causes were discovered that build up this type call:

1. Stoppage problem of service line, fuel line, appliance and pilot supplies.
2. Lack of suitable filter medium.
3. Lack of proper information on the service call.

It is desirable to remove possible stoppage before it can cause trouble. Following are several filtering mediums commonly employed in containers of various designs, and the sub-committee's experience with them:

1. Horsehair has been used in both the dry and oiled state and is considered effective only for scale and large size particles. This material offers little resistance to the flow of gas.
2. Steel wool is similar to horsehair in its ability to remove only scale and large size particles and also has the disadvantage of corroding in most gases, possibly aggravating the trouble in some cases.
3. Cotton is generally too dense to be satisfactory, becoming soggy when moist. It offers excessive resistance to gas flow and can be considered only a very temporary filter in most cases.
4. Glass wool is considered satisfactory where low concentrations of impurities and a comparatively dry gas is involved. Pressure drop is generally not excessive.
5. Felt has many of the disadvantages of cotton and is considered satisfactory only where low concentrations are involved.
6. Mineral wool is satisfactory where low concentrations are involved; however, care must be exercised to avoid excessive pressure drop.
7. Chemical filter paper is satisfactory where small rates of flow are involved; however, as there is no depth of filtering bed, the resistance soon is excessive.
8. Sponge filters have been used experimentally with some degree of success.

After the initial experiments, further work was done. To date these tests indicate that sponge is superior to other known filtering mediums. It is not yet, or is not at this writing, on the government's priority list and can be secured.

Efficient Gas Production Methods

By R. O. GARRETT

Production Engineer, Arkansas Louisiana Gas Co., Shreveport, La.*

PROPER production methods in themselves imply a fundamental utilization of the most efficient operation with the use of the smallest amount of material and the least man hours of labor to obtain the greatest efficiency and economy of operation, and although such methods may vary, depending upon physical conditions of the area in which the gas and the liquid hydrocarbon components that may condense from the gas are produced, the same sound fundamental principles will carry on throughout the operation of the gas industry. If those sound policies are followed, the gas industry can unquestionably contribute greatly to the war effort, which is now the controlling factor in all industries throughout this country.

Before giving a general discussion of the production methods employed by Arkansas Louisiana Gas Co., it might be pertinent to briefly describe the general type of producing property operated.

In general, company wells are producing from prolific and high pressure reservoirs from a depth of 5000 to 7000 ft., pressures ranging from 1500 to 3000 lbs. per sq. in. at the surface, the gas having a fluid content of from 5 to 20 barrels per MM c. f.

General plan of operation after the well is properly completed is to test same for open flow capacity, following in general the Bureau of Mines method of back pressure testing as described in Monograph 7. Care is maintained at all times to be sure that each rate of flow is thoroughly stabilized, and if stabilization is impossible due to fluid content or other factors which make surface pressures unreliable, it is then necessary to run a subsurface pressure instrument into the well and obtain pressures by that method. Such tests are repeated at quarterly or semi-annual intervals so that availability and reserve studies may be made.

After the wells are put on production, the volumes are regulated by the use of subsurface pressure regulators† and surface chokes or valves. In general, those wells which do not tend to freeze through the formation of hydrates under the differential pressures created at the well connections are controlled through surface chokes and those wells showing a tendency to freeze up are controlled through the use of the above-mentioned subsurface regulators.

Another method sometimes employed in preventing freezing where pells are completed sufficiently far above the gas-water contact to minimize the danger of coming and channeling of water, is to produce the wells at a sufficiently high rate of flow to prevent freezing for a period of a few days, then close them in for the balance of the month, while other wells are turned on in a similar manner, thus providing a continuous flow of gas to the pipe line; this, of course, is only possible where well capacities greatly exceed pipe line requirements.

As shown in Fig. 1, after the gas leaves the christmas tree (A), the following procedure is carried out:

Condensate and gas are produced from the wells (A) into lease separators (B) operating at approximately 400-500 lbs. Gas is removed from the top of the separator and measured by orifice meter (C) before being introduced into the plant gathering system, and a dual gravity drip disposes of the water produced.

Condensate is trapped out in the field separator, level of which is controlled by a Kidney operated valve (D). This valve is on the downstream side of a thermostatic compensated positive displacement meter (E), operating at separator pressure. Condensate discharged through this meter and valve is delivered into the gathering system line downstream from the gas orifice meter. Thus, gas and condensate are both measured on the lease.

Well production consisting of gas and condensate moves through the field gathering lines (F) to the plant, where the two phase mixture enters inlet separators (G) at approximately 350 lbs. per sq. in. or greater, depending on pipe line requirements. Here the gas and condensate are again separated and the gas flows through plant inlet orifice meters (H) to the base of the absorbers (I). The denuded gas flows from the top of the absorbers through outlet scrubbers (J) which remove any absorption oil carry-over. After passing through these scrubbers, the gas is metered (K) out of the plant and passes into the gas transmission system through a pressure control valve (L) which maintains the absorber and system pressure.

Condensate separated from the gas in the inlet separators, level of which is controlled by a kidney operated valve (M) flows to a condensate surge tank (N), in which the pressure is reduced to and maintained at approximately 100 lbs. per sq. in. by means of a back pressure control valve (O). This flash gas then passes through a reabsorber in which any traces of recoverable hydrocarbons are removed. The function of this tank is to remove dissolved gas, settle out moisture, and to facilitate blending of the condensate from various wells, which vary slightly

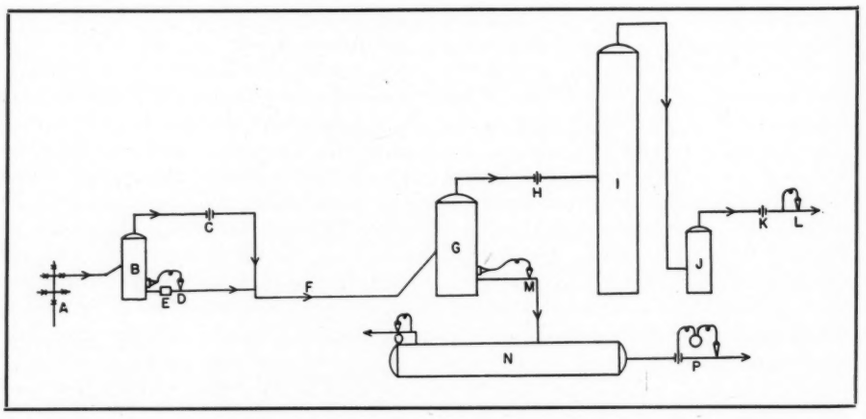

FIG. 1. Simplified flow diagram of gas condensate flow.

*Abstract of a paper, "Proper Production Methods," presented before the American Gas Association Natural Gas Convention, New Orleans, La., May 4-7, 1942.

†"Subsurface Pressure Regulation of High Pressure Condensate Wells," by John O. Farmer, Otis Pressure Control, Inc., 6612 Denton Drive, Dallas, Texas. A. P. I. Paper No. 901-18E. (See page 25.)

in their characteristics, ahead of the processing. The condensate flows from this tank through a flow-meter controlled valve (P) under its own pressure into the processing plant.

By using this procedure, lease tanks with their attendant evaporation loss are eliminated. The condensate is delivered to the processing plant in the same lines the gas is moved in, thus eliminating separate transmission lines and pumps. Trucking of this condensate to the plant would be unsatisfactory because of the large amount of automotive equipment required and because of relative unreliability due to weather conditions. Many leases are inaccessible during the rainy months.

Upon delivery of the condensate to the plant the use of the inlet surge tank accomplishes a controlled pressure reduction to a predetermined pressure which removes all dry gas with a minimum loss of recoverable hydrocarbons. If the condensate were flashed from 400 lbs. down to atmospheric pressure in a lease storage tank and allowed to weather for any length of time, as high as 15% of recoverable hydrocarbons, consisting chiefly of butanes which are currently in great demand, would be lost. In addition to this volumetric loss, the gasoline produced would require larger quantities of tetra-ethyl lead, due to the fact that these light hydrocarbons increase the natural octane number of the motor fuel before leading. Butane, as such, is being produced and the loss of the hydrocarbons mentioned by weathering would sharply decrease the production of this material.

Through the measurement of condensate at the wells by accurate meters under approximately 400 lbs. per sq. in. pressure, those lighter hydrocarbons such as pentanes, iso-butanes, etc., necessary to the war effort are recovered.

Protecting Gas Wells Against Sabotage

By JOHN O. FARMER

Otis Pressure Control, Inc., Dallas, Texas *

NEITHER policing of fields nor sand bagging of well connections give complete protection against sabotage or bombing. It is imperative that the safety devices for the prevention of uncontrolled flow be of a positive or automatic nature and be placed several hundred feet below the surface where their mechanisms cannot be damaged by bomb impact or the pilfering hands of fifth columnists.

To effectively equip a well to give full protection against these hazards, both the casing annulus and tubing bore must be safeguarded. Since the casing annulus in most cases is not used as a flow conductor, it can be positively sealed off near the bottom of the well by the use of a casing packer with mud left in the annulus above the seal. The weight of the tubing plus the weight of the mud column holds the packer against the upward thrust of the formation pressure and leaves the casing annulus "dead" at all times. There are several good types of casing packers available, any one of which will serve this purpose satisfactorily.

In two-zone completions, the casing annulus is used as a flow conductor for the upper formation; therefore, a regular casing packer will not serve this purpose. An "annular space" safety valve (see Fig. 1) has been developed in recent months that permits normal rates of flow through the annulus but instantly plugs this area when a predetermined maximum rate of flow is exceeded.

The tool is simply a pressure lock packer into which is built a series of individual velocity valves. Ten 3/8-in. holes through the main mandrel collar serve as an orifice section or fluid course through the packer. The upper ends of each of these courses are reamed out and tapped and serve as a housing for a velocity valve or plug. The velocity valve itself is simply a ball and seat assembly. The steel ball rests in an open position at the bottom of the reamed section of the hole until the velocity of the flow becomes sufficiently great to lift it to its seat. This action, of course, completely shuts off the flow through the passage.

The rate of flow that the annular valve will permit without closing depends upon the number of individual velocity valves installed in the tool. For instance, if one individual valve will permit a flow of 400,000 cu. ft. per day before it shuts off, then an annular valve using five individual valves with the other five blanked off will permit a flow of 2,000,000 cu. ft. per day without closing off. The rate of flow at which one of these velocity valves will close may be determined by testing it at the surface against the casing flow.

With this fact established it is a simple calculation to select the number of individual valves necessary to permit the normal rates of flow, yet to completely plug the annulus when the predetermined maximum rate is reached. The velocity valves are constructed so that the balls do not affect flow in a downwardly direction; consequently, circulation down through the annulus can be had quite freely; whereas the rate of circulation in the other direction is limited to a slower rate. Since this tool employs a pressure lock locking device, it also is easily removable and will operate effectively at relatively shallow depths.

Removable automatic subsurface tubing safety valves have been in use for several years in the Gulf Coast area. There are now two general types available—type B which is actuated by flow velocity and the type C which operates by pressure differential.

The type B automatic tubing safety valve is designed to remain in a permanent subsurface position, in the tubing string, and to allow the well to flow freely under normal rates of flow. However, the instant this normal rate of flow is materially increased, either because of flow cutting or damage to connections, the resulting increased velocity causes the valve to close and to completely plug the tubing.

The operation of the type B safety valve is quite simple. It is a velocity-operated valve and consists essentially of only a valve cage, a main valve and a regulating washer. Flow enters the valve cage through a series of vertical ports in the valve cage bottom, passes up thruogh the annular space between the main valve and the valve cage and then through the bore of the locking mandrel. Main valve is centered in the cage by two sets of wing guides.

Three factors—friction, pressure differential, and impact—all dependent

*Abstract of a paper, "Mechanical Subsurface Equipment for Protecting Oil and Gas Wells Against Sabotage and Bombing," presented before the American Gas Association 37th Annual Natural Gas Convention, New Orleans, La., May 4, 5, 6 and 7, 1942.

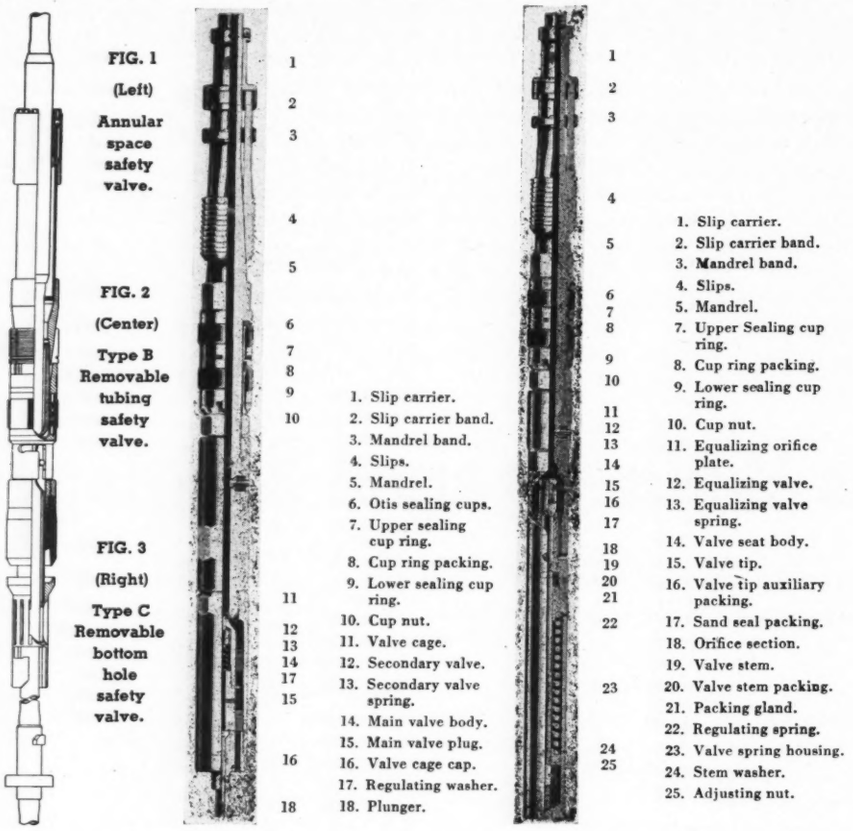

FIG. 1
(Left)
Annular space safety valve.

FIG. 2
(Center)
Type B Removable tubing safety valve.

FIG. 3
(Right)
Type C Removable bottom hole safety valve.

upon flow velocity through the valve, tend to lift the main valve into its seat against the lower end of the mandrel. This makes it possible to adjust the safety valve so that it will close when the rate of flow and the resulting velocity exceed predetermined limits. The regulating washer, which is made up on the main valve, serves as a baffle for the flow to act against to actuate the valve. The washer protrudes into the flow course between the main valve and the valve cage; consequently, the O. D. of the washer is a most critical factor when the effective valve area against which the flow acts is considered. By varying the diameter of the washer to control velocity through the safety valve, and varying the weight of the main valve by changes in length, the safety valve may be adjusted to permit flow up to a desired rate and to close instantly and automatically when that rate is exceeded.

In recent months a new type automatic tubing safety valve has been developed that is proving superior in most respects to the type B valve. This new valve is called the type C and is operated by pressure differential rather than by flow velocity (see Fig. 3). Operation by pressure differential permits more consistent and more accurate adjustment and completely eliminates premature closing occasionally caused by a very hard surging flow.

The new valve is in effect an oversized bottom hole choke into which is built a spring-loaded valve designed to remain open so long as the capacity of the bottom hole choke is greater than that of the surface choke. As long as this relationship exists, virtually all the pressure drop is carried across the surface choke, since it is the point of greatest flow restriction. However, the instant the capacity of the surface choke, either because of flowing cutting or damage, approaches or exceeds that of the bottom hole choke, the point of pressure reduction is transferred from the surface choke down to the bottom hole choke where the resultant pressure differential instantly snaps the spring-loaded valve closed.

The valve assembly consists of an orifice section, a spring-loaded main valve, and an equalizing or by-pass valve. The main valve is above the orifice section and is held open by the compression of a coiled expanding spring placed between the orifice section and the adjusting nuts on the lower end of the valve stem. Chevron packing is used to prohibit flow between the valve stem and the orifice section; consequently, all the flow from the tubing is directed through the openings in the orifice section. Any pressure drop across the orifice section also acts against the area of the valve stem, tending to close the main valve against the action of the coiled spring. As long as the capacity of the surface choke is materially less than the capacity of the combined areas through the orifice section, practically all of the pressure drop takes place at the surface choke —there being only a negligible drop across the valve stem. However, when the capacity of the surface choke approaches that of the openings through the safety valve orifice section, a pressure differential is set up across the valve stem, causing it to close instantly and to shut off all flow through the tubing.

The rate of flow that will close the safety valve depends primarily upon the capacity of the orifice section and to a limited degree upon the amount of initial compression placed in the coiled spring. The general practice is to determine the maximum rate of flow to be needed, then to select an orifice section that has a capacity slightly greater than that of the surface choke used to produce the maximum rate. Usually, about 500 lbs. per sq. in. spring compression is used; however, for wells with comparatively low flowing pressure 100 to 150 lbs. per sq. in. spring compression is employed. This spring regulating can be done in the field merely by adjusting the nuts on the bottom of the valve stem to the calculated position shown by a calibration chart.

Once the tubing connections are damaged and the safety valve closed, the well pressure acts against the full area of the valve to hold it closed until the surface connections are repaired and an equalizing tool run to open the valve so the well can be put back on production.

The design of the type C valve is such that the controlling element is not exposed to the impact or "slapping" action of a surging flow. Since the valve and seat are above the bottom hole orifices, the impact of the surge is directly against the orifice section and not against the valve. Also, the valve stem which extends below the orifice section is shielded from the flow impact by a housing which has only a small hole in its upper end to expose the valve stem to the upstream pressure. These shielding features completely avert premature closing due to surging flow and make possible perfect automatic subsurface control regardless of the flowing conditions.

Most companies have already standardized on the type C valve and it is

fast replacing the velocity type valve.

In both the B and C types safety valves there is an equalizing device which provides a safe and fast means to equalize pressure across the valve. These are particularly important where well conditions, such as unbalanced tubing and casing pressures, casing packers, etc., prohibit pressure equalization by connecting the tubing and casing together at the surface. It is absolutely necessary that pressures across all safety valves be fully equalized before they can be either opened or pulled from the tubing.

The equalizing device is merely a by-pass valve built in the tool between the mandrel assembly and the main valve assembly and consists of a ground seat against which a valve and stem function. The valve has a rounded nose that protrudes into the bore of the safety valve approximately ⅛ of an inch. This protruding nose in no manner interferes with the normal operations of the safety valve, but does provide a means for the operator to open the by-pass when desired.

To open the by-pass valve, a special equalizing tool is run in the hole on the conventional steel line, jars and stem. This tool has a long prong with a tapered end extending from its body. The prong passes through the bore of the mandrel assembly and forces the protruding valve nose back, opening the by-pass. This permits equalization of pressures across the safety valve. Care was taken in designing the by-pass to select an orifice sufficiently small so that the velocity of the flow through the by-pass could not possibly flow the tools up the hole regardless of the extremity of the pressure.

As was previously stated, the safety valve is lubricated into the hole under pressure in the same manner as that used for running a bottom hole pressure gauge. The valve is always set below the paraffin level, which is usually from 500 to 1000 ft.; however, in several instances they have been set just above the tubing perforations at the bottom of the hole to permit the taking of bottom hole pressure. Because the locking device used on both types of valves are identical to those used on the ordinary bottom hole chokes, regulators, etc., they require the customary procedure for running and pulling.

The subsurface control devices are proving sufficiently flexible to meet all flowing conditions. In some instances, 2-in. tubing safety valves are adjusted to pass 10 MM c. f. per day; whereas. others are made to shut off at rates less than one MM c. f. per day.

Progress on the Pipe Line

IN ANSWER to continued demands for increased supplies in old territories and the need for natural gas in new territories, considerable activity in pipe line construction for natural gas occurred in many parts of the country last month.

Texas-New York Line Revived

Reviving one of the major projects of the past few years, the Reserve Gas Pipe Line Co., Dallas, Texas, has refiled an application with the Federal Power Commission for the building of an $80,000,000 line from a point near the Texas-Louisiana border to New York City by way of Louisiana, Mississippi, Alabama, Georgia, South Carolina, North Carolina, Virginia, Maryland, Pennsylvania, and New Jersey, a distance of approximately 1500 miles.

The source of supply for the 24-in. line operating at an ekpected pressure of 1000 lb. per sq. in. would be the gas fields in the Gulf Coastal region of Texas, in which Reserve asserts it can secure a supply in excess of 4,500,000,000,000 cu. ft., with possible additional supplies of 17,750,000,000,000 cu. ft. that could be developed from proven fields.

The total market area to be served by this line, according to the application, would include Philadelphia, New Jersey, and Greater New York City. This territory has a population of 14½ million, of which at least 3½ million are now manufactured gas consumers.

The reasons given for building the line at this time were listed as: giving material aid to carrying forward the national defense program, making the vast natural gas reserves of Texas available to the heavily populated areas on the Atlantic seaboard and, finally, reducing the gas rates to the present consumers of manufactured gas to whom natural gas is not now available.

The previous application for building this line was filed with the commission August 8, 1940, and the new application filed May 5, 1942, is substantially the same except that alternate routes are said to be under consideration. It is proposed that construction be financed through the issuance of such securities for public and private sale as may be required.

Natural Gas for Mexico

Promising to make possible the tapping of large mineral resources in Mexico at a time when certain metals have become vital to this nation's war effort, the Border Pipe Line Co. proposes to pipe natural gas from the San Salvado field of northern Hidalgo county in Texas to the American Smelting and Refining Co.'s zinc smelter at La Rosita, Coahuila, Mexico.

In addition to supplying the requirements of the La Rosita smelter, about 10,000,000 cu. ft. daily, it is expected that additional gas will be used in the area of northern Coahuila, one of the richest undeveloped mineral sections of northern Mexico, to expand both mining and industrial activity.

The application for the permit to construct the line and export the gas has been filed with the Federal Power Commission. The project is expected to cost $1,500,000. In addition to laying new pipe, a present line of 12¾-in. will be utilized.

The new line will be of 8⅝-in. diameter, all-welded by a new process recently adapted to pipe line construction by engineers of the El Paso Natural Gas Co. Construction will begin about May 1, according to present plans, at a point south of Mirando City, and the line will be laid to the Rio Grande River to a point south of Laredo. At this point it will cross the Rio Grande as three 8-in. welded lines to provide maximum protection of the flow by having two extra lines available at all times.

About 39 miles of pipe line will be constructed from the Jim Hogg county compressor station to the Rio Grande, and the line will be 115 miles in length from the Rio Grande River to the La Rosita smelter.

The compressor station on the proposed line would contain two 400-hp. and one 300-hp. vertical units.

Well pressure in the San Salvador field, discovered, developed and owned by Gulf States Oil Co. of Houston, will deliver gas to the compressor station in Jim Hogg county at a minimum of 250 lb. The compressor station will discharge at 650-720 lb., and the line's capacity at those pressures will be approximately 17,000,000 cu. ft. a day.

The San Salvador field is said to be one of the world's largest natural gas reservoirs. Latest estimate indicates a reserve of 1,270,000,000 cu. ft. of gas. The field already has proved six sands, averaging 40 ft. in thickness, from 6700 to 7900 ft., the principal proved sand being at about 7300 ft.

The changeover from coke to natural gas at the La Rosita smelter will release 4000 tons of coke monthly for

use in the large steel mills of Monterey, Mexico, which have not been able to operate at full capacity because of a fuel shortage.

Proposed

Wisconsin Southern Gas Co., Burlington, Wis. Granted permission by the State Public Service Commission, subject to approval by the FPC, to construct 10-mile pipe line from Lake Geneva, Wis., to the line of the Natural Gas Pipeline Co. of America at a point near the Illinois state line.

Natural Gas Pipeline Co. of America, Chicago, Ill. Issued temporary certificate of convenience and necessity by FPC to construct a 10-mile 8⅝-in. lateral pipe line from its main line in Illinois to a point near Rockford, Ill., for the purpose of serving natural gas to about 50 industrial customers and 3000 domestic consumers in the industrial district. Changeover of the balance of the city is not immediately contemplated.

Cities Service Gas Co., Bartlesville, Okla., will lay a 15½-mile 12-in. line from the west end of their present 16-in. line in Carson county to two industrial plants near Amarillo, Texas. A 5½-in. extension will also serve a nearby mechanics' training school.

Building

Panhandle Eastern Pipe Line Co., Kansas City, Mo. Work continues on the line in Michigan with more than 25 miles of a 75-mile project of welded pipe having been laid. On the Illinois section near Galesburg progress has also been rapid. This 45-mile section is under contract to I. C. Little, with Oil States Construction Co. holding the contract on the Michigan work.

Montana-Dakota Utilities Co., Minneapolis, Minn. Construction is ready to start on a 26-mile 6-in. welded high pressure line from the Texas Co. gas wells in North Cut Bank, Mont., to a connection with its line from northern Montana to Great Falls, Mont. Rights of way have been acquired and priorities have been granted for the pipe.

Oklahoma Natural Gas Co., Bartlesville, Okla. Actual construction on the 96-mile 12-in. line between Chickasha and Stroud, Okla., with E. M. Campbell as contractor, has begun. Under construction also is the 1750-ft. suspension bridge across the Canadian River. The bridge will have a loaded backstay of an additional 850 ft.

Arkansas-Louisiana Gas Co., Shreveport, La. Of a total of 122 miles, 31 miles of 12-in. has been completed, 20 miles of 18-in. has been strung, 8 miles welded and 2 miles completed on the line from Magnolia to Bauxite, Ark., transmitting natural gas to industrial plants in Arkansas. Midwestern Engineering & Construction Co. holds the contract.

Completed

Oklahoma Natural Gas Co., Bartlesville, Okla. Finished April 31, with tests made and active operation begun the same day, the 9-mile 12-in. transmission line furnishing natural gas to Camp Gruber will serve gas to about 2300 buildings, including barracks, chapels, theaters, hospitals, bakeries, laundries and administration buildings.

Changeover

Central Illinois Electric & Gas Co., Rockford, Ill. This company plans the introduction of natural gas into the industrial section of the town in order to supply the needs of manufacturers who are producing for the war effort, according to word received from J. H. Erwin, gas superintendent. The changeover will not affect the entire city, but will involve approximately 3000 domestic and 50 industrial consumers. The remainder of the city will continue to be supplied by the manufactured gas plant. The project involves the extension of approximately 12 miles of 8-in. welded steel lateral line from the Milwaukee branch line of the Natural Gas Pipeline Co. of America to Rockford (see above under proposed). Central Illinois will construct approximately 8000 ft. of 8-in. main from Natural Gas Pipeline's meter station into the Rockford industrial district. The distribution company will also construct the necessary regulator stations and connecting feed lines. Although no definite date for the changeover has been set, it is expected that the operation will be completed by the middle of the summer.

Gas Institute Elects Trustees

THE Annual Meeting of the Institute of Gas Technology was held May 22, 1942, at 10:30 a.m. at the Institute in Chicago, Ill. An election of a board of trustees was held in which the following persons were elected to serve for the terms as stated, in addition to Henry T. Heald, who, as president, Illinois Institute of Technology, is a member of the board of trustees.

To serve for one year: A. R. Bailey, assistant to president, Coast Counties Gas & Electric Co., San Francisco, Calif.; W. Alton Jones, president, Cities Service Co., New York, N. Y.; Alfred O. Kaufman, trustee, Illinois Institute of Technology, Chicago, Ill.; Frank H. Lerch, Jr., president, Gas Companies, Inc., New York, N. Y.; Clifford E. Paige, president, The Brooklyn (N. Y.) Union Gas Co.; Louis Ruthenberg, president, Servel, Inc., Evansville, Ind.; Wilfred Sykes, trustee, Illinois Institute of Technology, Chicago, Ill.

To serve for two years: Frank H. Adams, vice president and general manager, Surface Combustion Corp., Toledo, Ohio; Walter C. Beckjord, vice president and general manager, Columbia Gas & Electric Corp., New York, N. Y.; Thomas Drever, trustee, Illinois Institute of Technology, Chicago, Ill.; N. H. Gellert, president, Great Lakes Utilities Co., Philadelphia, Pa.; N. C. McGowen, president, United Gas Pipe Line Co., Shreveport, La.; Herman Russell, president, Rochester (N.Y.) Gas & Electric Corp.; Frank C. Smith, president, Houston (Texas) Natural Gas Corp.

To serve for three years: F. M. Banks, vice president, Southern California Gas Co., Los Angeles, Calif.; H. R. Cook, Jr., Consolidated Gas, Electric Light & Power Co. of Baltimore, Md.; E. M. Farnsworth, president, Boston (Mass.) Consolidated Gas Co.; Robert B. Harper, vice president, The Peoples Gas Light & Coke Co., Chicago, Ill.; George S. Hawley, president, The Bridgeport (Conn.) Gas Light Co.; Marcy L. Sperry, president, Washington (D. C.) Gas Light Co.; Paul R. Taylor, vice president, Consolidated Electric & Gas Co., New York, N. Y.

As elected by the board of trustees, the following persons now serve in the offices as indicated: Frank C. Smith, chairman, board of trustees; Henry T. Heald, president; Harold Vagtborg, director; Robert B. Harper, secretary; and Raymond Spaeth, treasurer.

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Air Conditioning Committee Asks Utility Company Aid

The American Gas Association Joint Committee on Air Conditioning is now asking many utilities to submit their field performance experiences on existing and new installations of gas summer air conditioning equipment. The purpose of this request is to consolidate all factual knowledge and any useful information to manufacturers of such equipment as well as for charting the research program now under way at the A.G.A. Testing Laboratories.

Two sets of field test data forms have been prepared and distributed to representative gas companies, but they are also available to any company desiring to participate in this work. One set covers general, the other technical information.

Further information and copies of the forms may be obtained by addressing R. M. Conner, Director, A. G. A. Testing Laboratories, 1032 East 62nd St., Cleveland, Ohio.

Back Up the War With Advertising

By ROBERT and GLENN A. BISHOP

Bishop Publishing Co., Chicago, Ill.

"THIS IS WAR" and we are still all willingly making many sudden changes to conform to the new rules and restrictions so that we may help bring a speedy victory. It is no longer news that for the duration there will be few gas appliances for sale.

But the one bright spot for gas utilities is that they will be able to continue their ordinary functions. No basic changes will be demanded, no radical plant conversion to war work. Although trouble will probably be experienced in meeting unusual demands, in coping with shortages of supplies and labor, and in the inability to serve new customers, gas companies will at least be enabled to follow familiar paths. Contrast this with the present situation of the makers of automobiles, refrigerators, radios and other peacetime products.

Likewise, the post-war era should be easier for the gas utilities, since they will have less trouble in resuming normal operations. Other industries will have to stop and start anew, just as they are doing now in converting to war production.

But even though of less degree, the war situation is forcing changes in the gas industry set-up, particularly in the many sudden shifts in the imporatnce of departments that deal directly with the public.

For example, home service departments have become one of the most important gas company contacts with the public. To sell health to our nation, the gas industry, through A. G. A., has changed the type of magazine advertising to conform to the National Nutrition Program. Likewise, Bishop Gas Displays, which are used by gas companies, as well as newspaper ads, have also been changed.

The more people are helped to help themselves, the more friendships are created for gas companies, and the more pent-up desires are created to own new modern gas appliances when they will again be available in tremendous quantities. Home service directors contribute greatly by inspiring homemakers to carry out consumers' pledges, and to conserve what they have by proper maintenance. When people understand what is wanted of them, they gladly cooperate. And to the extent that gas companies serve in building that understanding, to that extent they are making friends to help them when the post-war era comes.

Advertising and display activities are the most effective and economical means of creating that understanding. Many sales and advertising executives at the Natural Gas Convention in New Orleans had a new "chins-up" attitude. When they were called in to talk about cutting down, they had the facts to prove that now, because of curtailed personal contacts, advertising and promotional activities should even be increased in order to maintain adequate communication with the public.

Many of these executives have become so important to their companies today that they have been made vice presidents, or assistants to presidents, so that they may have direct contact with the management to settle without delay the many new problems that must have immediate attention.

Here are some of the thoughts they are using to keep friendly public contacts alive:

Explaining to the public how business-managed gas companies are speeding up the production of war materials.

Telling how good business management makes possible maximum gas benefits at minimum cost.

Explaining curtailment of companies customary service because of the need to prevent waste, to promote the most efficient operation of present utilization equipment and to release more capacity for industrial concerns producing war materials.

Describing how company services are coordinated with civilian defense and similar agencies for civilian protection.

Tying in gas company activities with the National Nutrition Program to maintain and improve civilian health and physical fitness.

Giving instructions on how to keep gas appliances in good working order.

Illustrating this article and elsewhere are some timely Bishop Gas Displays on some of these activities, such as "Civilian Defense" and "Nutrition," the latter approved by the Office of Defense Health and Welfare Services.

As one gas company advertising manager put it, "Show windows and advertising are the 'front page' of appliance stores and gas companies. They should be an accurate reflection of the management's attitude. If that attitude is one of definitely and vigorously sponsoring America's war effort, the show windows and advertising should say so, definitely and vigorously. In these times show windows and advertising that represent a 'business-as-usual,' half-hearted display of patriotism cannot be tolerated by the aggressive appliance store or gas company."

YOU SAVE THOSE VANISHING VITAMINS WITH...
MODERN GAS COOKING
"U.S. NEEDS US STRONG...EAT NUTRITIONAL FOOD"
For Victory
GET MORE STAMPS AND BONDS
WE'RE FIGHTING MAD!
OUR ENEMIES STARTED IT-THEIR WAY...TOGETHER, WE'LL WORK AND SACRIFICE TO FINISH IT OUR WAY
America's UTILITY COMPANIES TOO, ARE HELPING ACHIEVE Victory

Shown at left is one of Bishop Publishing Co.'s Vitamin Jumbo displays; at right, a Jumbo Civilian Defense display. The company also produces background displays in both classifications.

NU-WAYS

Preheating Aids Welding Operations

THE procedure* that was followed in the bronze-welding of a cast iron mine hoist drum shows how local preheating can be of assistance for certain types of welding operations where contolled expansion of the part will result in a better weld. The break was located in one of the spokes of the hoist drum, an integral casting which had been broken when a conveyor car caught in the mine shaft. The spokes are in tension during part of the operating cycle and, therefore, a welding procedure that would minimize these stresses and stengthen the weld was needed.

To accomplish this it was decided to open up the crack by preheating selected areas of the drum's surface, thus causing them to expand and to draw apart the two sections of the broken spoke, and then to fill in the enlarged gap with weld metal so that, when the casting had cooled and contracted, the weld would be slightly in compression. Otherwise, the two sections of the broken spoke would be drawn together slightly during welding, due to the heat of welding, and on cooling would contract, placing the weld in tension.

The accompanying sketch shows how the repair was made. After the edges of the break had been chipped to clean metal, and punch marks had been made on either side to provide a means of checking expansion, the areas (indictated by shading, in the sketch) on the drum flange and the areas behind them, extending several feet onto the drum body, were heated with the welding blowpipe. As these areas expanded, the outer section of the broken spoke was drawn outwards, assisted by the action of screw jacks, as shown in the sketch. When the opening had increased about 0.05 in., it was bronze-welded. The figure 0.05 in. was decided upon by referring to a metals handbook, which gave 0.042 in. as the estimated expansion of a 1-ft. length of cast iron when heated to about 500°F. After welding, the jacks were removed and the preheated sections allowed to cool and compress the weld area. As the weld cooled, it was peened with a hammer.

Standard bronze-welding technique, employing a slightly oxidizing flame, and Oxweld 25 M. Bronze rod and Oxweld Brazo flux were used. The entire operation was carried out without removing drum from operating position.

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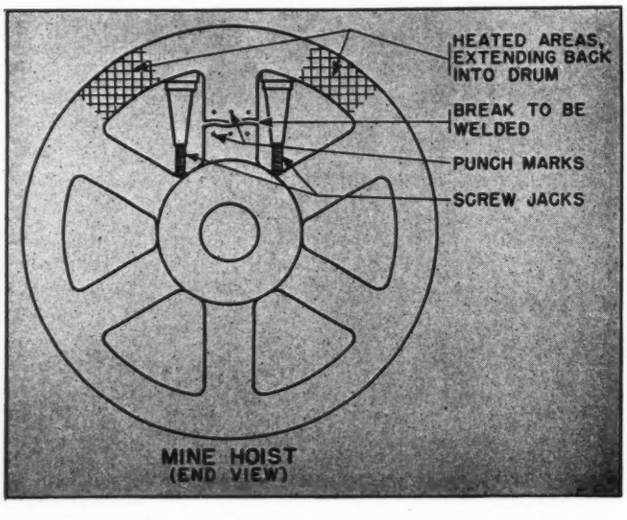
*Reprinted from *Oxy-Acetylene Tips*, Dec., 1941, published by the Linde Air Products Co., 30 East 42nd Street, New York City.



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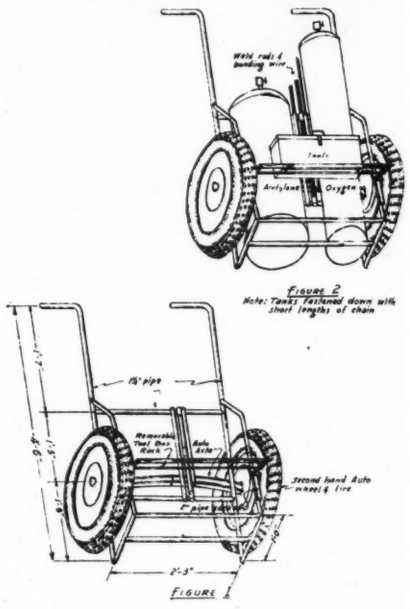
This sketch shows how the broken spoke in the mine hoist was repaired by bronze-welding. The areas indicated by shading were preheated, causing the top section of the rim to bow slightly, assisted by the action of screw jacks.

▼

Welder's Buggy

R. D. Parker, of the Houston (Texas) Natural Gas Co. has designed this "Welder's Buggy" from a Model A Ford axle. It saves the gauges by reducing vibration that previously occurred when welding equipment was dragged over stones, rough places, etc. It reduces the number and the work of helpers who handle equipment. The buggy has rubber tires. It has a tool box for wrenches, etc. The frame is made of 1¼-in. pipe welded together.



Welder's buggy used by Houston Natural Gas System.

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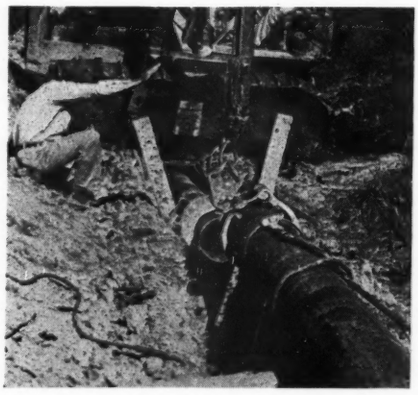

Tractor Bends Pipe

In the past, pipe was either bent around a tree or placed on skids and men bounced up and down on it to get the required bend, sometimes getting bad buckles instead. In making the bends on this job the pipe was lowered into the ditch onto crossed skids, a grooved skid fitted over the top of the pipe and the tractor driven out over the pipe on this latter skid. A boom on the tractor lifts the pipe the necessary amount to get the bend, the job taking less than a minute per length bent.

ASSOCIATIONS

War Conference in New Orleans

By ARTHUR ROHMAN
Managing Editor, GAS

THE war and its countless problems which have altered or hampered the peace-time production, transmission, distribution, and utilization of natural gas — that was the many-sided topic discussed by 1000 gas industry executives who came to New Orleans May 4-7 to attend the American Gas Association's 37th Annual Natural Gas Section Convention and 19th Annual Distribution Conference.

When all the little words had blown away, there remained these big ones: that the United Nations must win this war, and that natural gas has in the past, is in the present, and will in the future (months or years) play an even more vital role in making certain that We Will Win.

Harold L. Ickes, Secretary of the Interior and Petroleum Coordinator for War, brought the convention sessions to a climax when he told to the assembled delegates in person and to the American people by radio the story of the all-important role that the petroleum industry will play in winning this war in a minimum of time.

Mr. Ickes was introduced to the radio audience by J. French Robinson, chairman of the Natural Gas Section, American Gas Association and president, The East Ohio Gas Co., Cleveland. Excerpts from Mr. Ickes' address are published on page 11.

An honored speaker at the Annual Banquet was George S. Hawley, president, American Gas Association, who outlined to the delegates the Association's two main purposes: "(1) to secure and disseminate useful information about the gas industry, and (2) to promote fundamental and applied research." Continuing, Mr. Hawley stated:

> "That the gas industry cannot, like other industries, be wholly converted from a condition of peace to one of war; for in addition to the vital part this industry plays in the fabrication of the materials of war, we must, in the interest of public health, nutrition and morale, maintain an uninterrupted and high standard of service to the civilian population, most of whom are engaged in war work in some form. This we have been able to do."

The first meeting at New Orleans was a joint general session of both the Natural Gas Convention and Distribution Conference delegates. The meeting was presided over by Chairman Robinson. The delegates were welcomed to New Orleans by A. B. Paterson, president, New Orleans Public Service.

The session then presented four gas industry leaders. The first of these was C. S. Goldsmith, chairman of the Distribution Committee, Technical Section, A.G.A., whose subject was "Keeping Up With Gas Distribution Problems." Mr. Goldsmith, in discussing the part that customers are playing in the present emergency, stated:

> "During the past few years, more and more distribution engineers have come to believe that it is desirable to have their customers possess a basic knowledge of the operation and maintenance of domestic appliances. Immediately after the war began in December, all of us were shocked at the sudden realization that our customers were ignorant even of how to turn off the gas!
>
> "It seems to me that we have missed a trick in the past by not telling the customer anything about the appliances he uses daily in his home. This lack of foresight on the part of our distribution engineers is now in the foreground of our thoughts. What are we going to do about it?"

Chairman Robinson in his topic, "Whither Are We Going?" made three pointed observations: (1) that the customer of today looks toward the industry for help more than ordinarily; (2) that flag waving is not discharging proper obligations to customers, stockholders, or country; (3) that in teaching the consumer the value and practices of better gas utilization, the industry is helping them through the war, contributing to the conservation of gas, and preparing the American people for better living after the war.

"Solvency Is a Challenge to the Gas Industry" was the subject of Allan W. Lundstrum, gas operating consultant, Ebasco Services, Inc., New York, N. Y. Mr. Lundstrum stated:

> "Customers are now earning more. One of the most important national problems is 'inflation.' Prevention of inflation is being approached by draining off excess purchasing power in various ways. A utility rate increase to keep companies solvent and able to render vitally necessary services is a *public benefit* under such conditions."

Edward L. Love, vice president, Chase National Bank, New York, N. Y., then discussed how the industry can finance itself today so as to insure a solvent tomorrow. The problems were outlined as follows:

> "The Federal tax problem must be approached realistically; reserves must be established to meet every known contingency; the debt structure requires steady and consistent reduction; all avenues of finance should be kept open so that any one or more may be used as the occasion demands; continuity of strong management should be retained; construction budgets should be reappraised so that every dollar is fully utilized; and finally you must be prepared to tighten the belt still farther by limiting dividend distributions as a larger part of earnings may be needed for extraordinary expansion demands."

The first general session closed with a word from Hon. Gung-Hsing Wang, Vice Consul of China in New Orleans. Hon. Gung-Hsing Wang stated that although it will be difficult for China to wage counter-offensives, she will continue to resist the Japanese.

Burt R. Bay, vice chairman of the Natural Gas Section, and president, Northern Natural Gas Co., Omaha, Neb., presided over the second general sessions meeting Wednesday morning.

M. V. Cousins, chairman of the Natural Gas Section, Vocational Training Committee and personnel director of United Gas Pipeline Co., Shreveport, La., reported to the delegates that the Vocational Training Committee, after its formation just a year ago, was suspending its activities because of the war emergency. In discussing the present employee situation, Mr. Cousins stated:

> "At the present time we are experiencing the greatest turnover of employees in the natural gas industry that our industry has ever known. Since our operations must continue at a high level, and since

(*Turn to Page 34*)

GAS CAMERA HIGHLIGHT

(More Photographs of the Natural Gas Convention and Distrib

ABOVE: George W. Brown, Equitable Gas Co., Pittsburgh, Pa.; **W. M. Little,** Arkansas-Louisiana Gas Co., Shreveport, La.; **A. C. Cherry,** Cincinnati Gas & Electric Co., Cincinnati, Ohio.

▲

LEFT: P. E. Fluor, Fluor Corp., Los Angeles, Calif.; **Burt R. Bay,** Northern Natural Gas Co., Omaha, Neb.; **John M. Hanley,** Northern Natural Gas Co., Omaha, Neb.

▼

ABOVE: Ray L. Rountree, United Gas Pipeline Co., Shreveport, La.; **George H. McFadden,** Ohio Foundry & Mfg. Co., Steubenville, Ohio; **R. W. Stafford,** Connelly Iron Sponge & Governor Co., Chicago; **W. E. Kemen,** Milwaukee (Wis.) Gas Light Co.; **G. A. Anderson,** Wisconsin Public Service, Sheboygan.

ABOVE: R. G. Barnett, Portland Gas & Coke Co., Portland, Ore.; **Hugh Cuthrell,** Brooklyn Union Gas Co., Brooklyn, N. Y.

RIGHT: Charles E. Gill, Natural Gas Odorizing Co., Chicago, Ill.; **A. A. Burrell,** Cooper-Bessemer Corp., Dallas, Texas; **T. F. Hudgins,** Cooper-Bessemer Co., Mt. Vernon, Ohio.

BELOW: A. F. Bridge, Southern Counties Gas Co., Los Angeles, Calif.; **J. E. B. Gibbons,** Wailes Dove-Hermiston Corp., Westfield, N. J.; **Merrill N. Davis,** Dresser Mfg. Corp., Bradford, Pa.; **R. G. Soper,** Dallas (Texas) Gas Co.

BELOW: Fred R. McMurray, M. B. Skinner Co., South Bend, Ind.; **Frank A. McMurray** and **Joe Allen,** Norton-McMurray Manufacturing Co., Chicago, Ill.; **Dean H. Mitchell,** Northern Indiana Public Service Co., Hammond, Ind.

GHT EW ORLEANS CONVENTION

ad Distrib rence Delegates Will Appear in the July issue of GAS)

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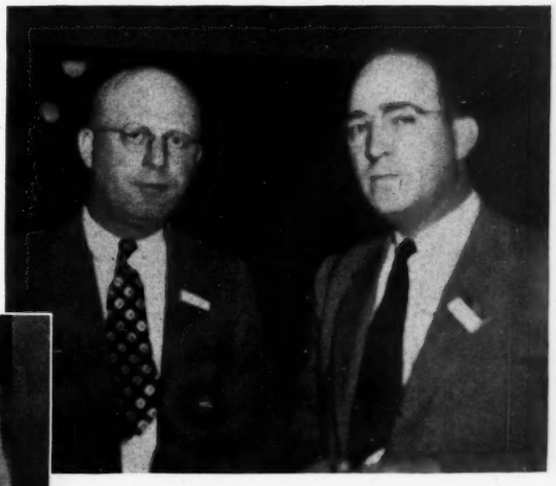
RIGHT: F. S. Rutherford, Republic Steel Corporation, Washington, D. C.; **G. R. Locke,** Republic Steel Corp., Youngstown, Pa.; **Manly Brown,** Republic Steel Corp., Cleveland, Ohio.

▼

ABOVE: B. B. Stringfellow, Community Natural Gas Co., Dallas, Texas; **Chester L. May,** Community Natural Gas Co., Dallas, Texas; **F. H. Dotterweich,** Texas A. & I., Kingsville, Texas.

ABOVE: W. B. Poor, United Gas Pipeline Co., Shreveport, La.; **W. W. Colley,** Industrial Engineering Co., Houston, Texas; **H. H. McAfee** and **C. Hobson Dunn** of C. Hobson Dunn, Dallas, Texas; **J. J. Clancy,** Wailes Dove-Hermiston Corp., Dallas, Texas.



ABOVE: T. H. Kendall, Equitable Gas Co., Pittsburgh, Pa.; **J. T. Stine, Jr.,** New Orleans Public Service Co., New Orleans, La.

LEFT: Fred L. Richardson, Community Natural Gas Co., Dallas, Texas; **Frank J. Hoenigmann,** Cribben & Sexton Co., Chicago, Ill.; **W. M. Jacobs,** Southern California Gas Co., Los Angeles, Calif.

BELOW: E. C. Wagner, Amarillo Gas Co., Amarillo,. Texas; **C. H. Waring,** Kansas City Gas Co., Kansas City, Mo.; **R. E. Wertz,** Amarillo Gas Co., Amarillo, Texas; **Watson E. Derwent,** Geo. D. Roper Corp., Rockford, Ill.

BELOW: L. H. East, Rochester (N. Y.) Gas & Electric Corp.; **James F. Pollard,** Seattle (Wash.) Gas Co.; **F. W. Carter,** Peerless Manufacturing Corp., Louisville, Ky.; **Davis M. DeBard,** Stone & Webster Service Corp., New York, N.Y.

Natural Gas Convention Notes

A. G. A. Annual Convention Cancelled

The Executive Board of the American Gas Association at its meeting in New Orleans, May 4, cancelled the Annual Convention heretofore set for San Francisco in September, 1942. A committee will be appointed by President Hawley to consider the time and place for a proposed annual business meeting.

B. R. Bay and R. E. Wertz Nominated to Natural Gas Posts

Burt R. Bay, president of Northern Natural Gas Co., Omaha, Neb., and Ralph E. Wertz, president of Amarillo Gas Co., Amarillo, Texas, have been nominated chairman and vice chairman, respectively, of the Natural Gas Section of the American Gas Association. Nominations will be acted upon at the annual A. G. A. meeting in the fall. Mr. Bay has served as vice chairman of the Natural Gas Section during the past year and has taken an active part in association activities for several years.

Mr. Wertz is one of the pioneer gas men in the Texas Panhandle. He has been in charge of his company's operations for several years and has been active in conservation programs in the Panhandle and in national affairs of the industry.

National Advertising Approved for Seventh Year

Plans for the seventh year of national advertising were approved at a meeting of the American Gas Association Committee on National Advertising held in New Orleans, La., May 5. Chairman Thomas J. Strickler, of Kansas City, Mo., was in charge of the meeting.

J. P. Leinroth presented the proposed commercial and industrial gas campaign. Mr. Leinroth is chairman of the Advertising Committee of the Association's Industrial and Commercial Gas Section. A second presentation dealing with the same subject was made by George Ketchum of Ketchum, MacLeod & Grove, Pittsburgh, Pa., advertising counsel for Mr. Leinroth's committee.

Hugh A. Mitchell, of McCann-Erickson, Inc., New York, described the plans for domestic gas advertising as previously approved by the Copy Committee. Companies shortly will receive schedules and advance reprints of the new campaign. In the meantime, a letter announcing the continuation of the advertising program will be mailed to all subscribing companies.

Members of the Committee on National Advertising and the Copy Committee who were present at the New Orleans meeting include: C. E. Bennett, J. F. Pollard, J. S. Spaulding, M. L. Sperry, J. V. Strange, H. Carl Wolf, R. T. Ratliff, T. H. Spain and W. G. Wiegel.

we are at present carrying on very little activity that is not absolutely necessary, we must replace those employees who leave us almost man for man. I think I will express only that which we have all already experienced when I say we will not have the same type of new employees we have had in the past. We must hire older men—and we must hire women. It now seems that we may possibly use women even in some of the field operations where we now think only a man can successfully be used. When this turnover of employees continues farther and after we have all had enough experience to indicate our needs, we may find it advisable to develop short texts that would assist new employees in their work."

Marketing problems under war conditions were discussed at length by H. V. Coes, vice president, Ford, Bacon & Davis, Inc., New York, N. Y. Mr. Coes brought out the fact that during this period of stress that advertising has four major functions:

1. Continue advertising's indispensable role in the process of distribution and in the maintenance of the business structure.
2. Guide consumer demand to channels most readily supplied and away from scarce materials.
3. Assist the government directly in the appeals to the people on specific war efforts.
4. Help maintain public morale.

Rex F. Harlow, president, American Council on Public Relations, and associate professor, public relations, Stanford University, Palo Alto, Calif., in discussing the subject of public relations stated that the United States must, in order to win this war and maintain peace afterward, do much more than merely produce. It must develop an international viewpoint that will enable it to influence the world.

Harold Vagtborg, director, Institute of Gas Technology, Chicago, Ill., then took the delegates on a motion picture tour of the Institute, showing the buildings, the equipment and the instructors and students at work.

On Thursday, Chairman Robinson presided over a Natural Gas Industry Conference which gave the delegates an opportunity to question OPC representatives Paul M. Raigorodsky, Justin R. Wolf and Virgil F. Bower on orders and policies of the Office of Petroleum Coordinator for War that affect the natural gas industry. During the meeting, an address by Robert E. Allen, assistant deputy coordinator, was read by Natural Gas Section Secretary E. Holly Poe. Attending delegates were interested in brief reports given by representatives from each of the five OPC coordinating committees.

Parallel Sessions

Transmission Conference: (B. M. Laulhere, technical supervisor, Southern California Gas Co., Los Angeles, Calif., chairman.) Three transmission meetings were scheduled on the convention calendar. Gas industry authorities discussed such topics as cathodic protection; the operation of high pressure transmission lines; the use of automatic shut-off valves; and the value of aerial patrols in guarding pipe lines against sabotage and accidents. Other important and timely subjects also discussed were the use of recycling in natural gas conservation, the elimination of vibration in compressors, and problems of dehydration plant design and operation.

Two colored motion pictures were featured at these meetings. The first was presented by W. B. Poor and L. F. Van Houten, United Gas Pipe Line Co., Shreveport, La., covering the construction of United Gas Pipe Line Co.'s Lirette-Mobile pipe line; and the second, presented by A. L. Forbes, Jr., El Paso (Texas) Natural Gas Co., portrayed a new fusion welding process which was developed by the El Paso company.

Production Conference: (C. U. Daniels, Oklahoma Natural Gas Co., Tulsa, Okla., chairman.) Two production sessions were held, the first being devoted to a symposium of drilling and completion in high pressure areas. Papers on experiences in Ohio, Oklahoma, Louisiana, and Texas were presented. A symposium on proper production methods was a feature of the second production conference held on Monday afternoon.

Industrial and Commercial Gas Sales Conference: (George F. B. Owens, assistant vice president, The Brooklyn Union Gas Co., Brooklyn, N. Y., chairman.) Gas at work in the war production front was the theme of this meeting. A strong array of leading industrial and commercial gas men and equipment manufacturers presented papers on the use of gas in war factories, army and navy bases and camps. Suggestions were of immediate importance and interest because of the unprecedented expansion of industrial gas outputs and the tremendous quantities of industrial gas lines throughout the country. Chairman Owens pointed out that industrial gas up to the present time has met exacting requirements laid down for it.

Residential Gas Sales Conference. (C. B. Wilson, new business manager, Arkansas - Louisiana Gas Co., Little Rock, Ark., chairman.) The two residential gas sales conferences brought to the floor the many war-time problems which are now facing sales executives. Among those discussed were the position of the gas appliance manufacturers in the war and in the post-war period. Henry O. Loebell, Surface Combustion Division, New York, N. Y., presented a resume of the experience of a Canadian gas company after 30 months of war. The question of war-time advertising was handled by D. C. Schnabel, Bozell & Jacobs, Houston, Texas.

The second residential sales conference featured a panel discussion on the topic, "Building Tomorrow's Sales Today." The questioner was Chairman Wilson. The panel participants were: F. M. Rosencrans, The Gas Service Co.; Walter C. Beckjord, Columbia Gas & Electric Corp.; W. M. Jacobs, Southern California Gas Co.; Chester L. May, Community Natural Gas Co.; R. D. Maxson, Public Service Co. of Northern Illinois; J. French Robinson, The East Ohio Gas Co.; and Frank C. Smith, Houston Natural Gas Corp.

Among the topics discussed were: "Use of Salesmen as Servicemen," "Servel's Home Volunteer Program," "Methods of Informing Consumers of How to Conserve," "The Value of Home Service Today," "The Use of Traveling Service Crews," and "The Necessity of Keeping the CP Range Program Before the Public."

Accident Prevention Conference: (Q. R. Dungan, Cities Service Gas Co., Bartlesville, Okla., chairman.) A symposium on streamlining the accident prevention program was presented by P. A. Alberty, Ohio Fuel Gas Co., Columbus, Ohio. A panel discussion led by A. W. Breeland, Lone Star Gas Co., Dallas, Texas, took up the subjects of: "Job Training for New Employees," "Employee Safety Meetings," "The Physical Examination Program," "The First Aid Training," "Maintaining Physical Property," "Investigating Accidents and Developing Safe Practice Procedures."

Accounting Conference: (L. L. Dyer, comptroller, Lone Star Gas Co., Dallas, Texas, chairman.) Two sessions were held with L. L. Dyer presiding over the first session, and Oakah L. Jones, Oklahoma Natural Gas Co., Tulsa, Okla., presiding over the second. The problems of reorganizing the commercial offices and the general accounting departments for the defense efforts were touched upon. The selection and training of new employees, job analysis, and salary standards were other topics. Insurance played an important role in these discussions, as did developments of internal audits for departments other than general and commercial accounting.

Distribution Conference

The problems of maintaining service to gas consumers during enemy attack; the methods used to combat sabotage; the policies adopted to inform and instruct the customer on actions he should take with regard to gas service during emergency conditions; the development and use of substitutes in place of critical materials: these and numerous other topics related to the war effort kept the delegates to the 19th Annual Distribution Conference jumping from one meeting to the next.

The opening session of the conference took place on Monday morning at the St. Charles Hotel, with C. S. Goldsmith, Distribution Committee chairman, presiding. Delegates were welcomed to New Orleans by H. E. Meade, vice president of operations, New Orleans Public Service, Inc. Two other speakers completed the program. These were A. V. Brashear, Michigan Consolidated Gas Co., Detroit, Mich., who discussed "Adjustment Mechanics of a Tin Diaphragm Meter," and C. E. Smith, Ethyl Gasoline Corp., Detroit, Mich., who spoke on "Engine Adjustments for War-time Fuels."

During the afternoon, the distribution meeting broke up into two luncheon conferences; (1) Meters, with J. H. Collins, chairman, New Orleans Public Service, Inc., presiding; (2) Construction and Maintenance, with T. H. Kendall, chairman, Equitable Gas Co., Pittsburgh, Pa., presiding. Among the topics discussed at this meeting were "The Formation and Function of the Utility and Defense Organization," "The Use of Blackout Lights," and "The Methods of Extinguishing Fires in Broken Mains."

The second meeting of the Distribution Conference took place Tuesday afternoon in the form of a luncheon conference on work on consumers' premises. H. W. Nicolson, chairman, Public Service Electric & Gas Co., Newark, N. J., presided. The following topics were discussed at this meeting: (1) "Methods of Venting Appliances," discussion leader, Herman G. Horstman, Public Service Co. of Indiana, Indianapolis, Ind.; (2) "The 'Repeat' Call Problem," discussion leader, Wilber T. Collins, The Ohio Fuel Gas Co., Columbus, Ohio; (3) "Educating Our Customers to Light Up and Help Maintain and Operate Their Equipment," discussion leader, D. S. Bittinger, Washington Gas Light Co., Washington, D. C.; (4) "Conservation of Tires and Automotive Equipment," discussion leader, H. W. Nicholson, Public Service Electric & Gas Co., Newark, N. J.

The distribution conference reconvened on Wednesday for a general meeting under Chairman Goldsmith. Alexander Forward, managing director, American Gas Association, New York, N. Y., told the delegates how the Association was streamlining its war efforts.

The discussion of street tools developed to facilitate distribution system maintenance was directed by F. A. Engel, Elizabethtown Consolidated Gas Co., Elizabethtown, N. J. R. B. Allen, Michigan Consolidated Gas Co., Detroit, Mich., presented a paper on "Reconditioning Steel Mains in Detroit."

The distribution conference closed Wednesday afternoon with a joint symposium on the protection of property and personnel during the period of the war emergency.

Special Events

With Chairman Robinson presiding, a majority of the delegates attended the gas industry luncheon in the Blue Room on Tuesday. Four notable talks were given, with Alexander Forward speaking on "On the Washington Front"; Mildred Clark, Oklahoma Natural Gas Co., Tulsa, on "The Home Service Program"; O. C. Waters, assistant to the president, Atlanta Gas Light Co., Atlanta, Ga., on "Mobile Kitchen for Service Crews"; and J. Ernestine Becker, Johns Hopkins University, Baltimore, Md., on "War-time Nutrition and Food Conservation."

High point of interest at the breakfast of the Gild of Ancient Supplers was the informal talk on the appliance situation, with latest reports on Washington's attitude, given by Suppler W. E. Derwent, president of the A. G. A. E. M., and vice president, Geo. D. Roper Corp. Twenty-four members were present, to be presided over by Joe A. Mulcare, Mulcare Engineering Co., New York, N. Y., who reported on the sectional activities of his group.

Very popular was the open house stag held Tuesday night with leading manufacturers in the industry playing hosts to more than 500 delegates. Art Kerr, of the Tulsa, Okla., office of Pittsburgh Equitable Meter Co., was in charge of this stag dinner.

Abstracts of papers presented at the meetings are published on page 44.

A.G.A. Chemical Conference in New York

A PROGRAM of urgent timeliness was presented at the joint conference of the Production and Chemical Committees of the American Gas Association which was held May 25-26 at the Hotel Pennsylvania, New York, N. Y. Normally a three-day event, this year's meetings were restricted to two days in order that key chemists and production men could get back to their jobs promptly.

R. J. Sheridan, head analyst of The Brooklyn (N. Y.) Union Gas Co., and chairman of the chemical committee, and Raymond H. Arndt, superintendent of gas manufacturing, Consolidated Gas, Electric Light & Power Co. of Baltimore, Md., and chairman of the gas production committee, were co-chairmen of the conference.

Following the welcoming address of Major Alexander Forward, managing director, A.G.A., on Monday morning, delegates heard discussions of specific production problems. L. J. Willien, Public Utility Engineering & Service Corp., Chicago, Ill., spoke on "Increasing Plant Capacity to Meet War-time Demands." E. W. P. Smith, The Lincoln Electric Co., Cleveland, Ohio, spoke on "Electric Arc Welding in Gas Plant Maintenance," and Dr. W. C. Rueckel, Koppers Co., Pittsburgh, Pa., discussed "New Principles in Heating Koppers-Becker Coke Ovens."

The Monday afternoon session was devoted to chemical subjects. W. M. Pierce, chemical engineer, Employers' Liability Assurance Corp., Ltd., Boston, Mass., described "Scientific Methods Applied to Accident Prevention," and Louis Shnidman and Jesse E. Yeaw, Rochester (N. Y.) Gas & Electric Corp., spoke on "Corrosion of Stainless Steel by Flue Gases." Frieda Fuchs, The Pennsylvania State College, presented a paper on "Microanalysis of Ash." A discussion of "Selection of Coals for Wartime Carbonization by Means of an Improved Engineering Model of the Coke Oven" was given by V. J. Altieri, M. C. Cryan and J. H. Swiniarski, Eastern Gas & Fuel Associates, Everett, Mass.

The report of the gas conditioning committee was presented Monday afternoon. H. D. Lehman, The Philadelphia (Pa.) Gas Works Co., and Dr. E. W. Guernsey, Consolidated Gas, Electric Light & Power Co. of Baltimore, Md., served as chairman and vice chairman, respectively, of this committee.

On Tuesday morning a joint session of the Production and Chemical Conference and the Motor Vehicle Conference, which was held concurrently, took place. Following this joint session, there was a discussion of various aspects of national defense as it relates to the gas industry, including such subjects as "Occupational Readjustments," "Increasing Plant Capacity," and "Protection of Properties."

Luncheon meetings devoted to informal discussions of specific problems concluded the Tuesday afternoon conference and the gas production committee sponsored simultaneous meetings on "Carbonization of Coal," "Production of Carburetted Water Gas," and "Production of High B.t.u. Gas."

W. R. Fraser, experimental engineer, Michigan Consolidated Gas Co., Detroit, served as chairman of the chemical luncheon meeting. Short presentations prepared by his group included: "Quantitative Determinations by Gas Liberation," by Dr. E. G. Seil, Philadelphia, Pa.; "Dehydration of Tar Emulsions," by C. J. Lueders, Lynn, Mass.; "Wash Oil Inhibitors," by Dr. O. W. Lusby, Baltimore, Md.; "Ammonium Sulphate Production," by William Tiddy, New York, N. Y.; and "Shortages of Vital Materials," by L. M. Van der Pyl, Pittsburgh, Pa.

T. L. Robey, chief chemist, Washington (D. C.) Gas Light Co., was chairman of the program committee of the chemical committee.

CALENDAR

June

Canadian Gas Association, 35th Annual Meeting—Windsor Hotel, Montreal, Canada, June 4-5.

Pacific Coast Gas Association Sales and Advertising Section Meeting—Ambassador Hotel, Los Angeles, Calif., June 4-5.

American Society of Mechanical Engineers, Semi-Annual Meeting—Cleveland, Ohio, June 8-10.

Pacific Coast Gas Association Accounting Section Meeting—Ambassador Hotel, Los Angeles, Calif., June 11-12.

Public Utilities Advertising Association—Commodore Hotel, New York, N. Y., June 22-23.

American Home Economics Association—Hotel Statler, Boston, Mass., June 22-24.

American Society for Testing Materials—Chalfonte-Haddon Hall, Atlantic City, N. J., June 22-26.

September

Mid-West Gas Association Annual Gas School and Conference—Ames, Iowa,, September 8-10.

Pacific Coast Gas Association Annual Convention—San Francisco, Calif., September 28. (Probably executive meeting only.)

24th Annual Convention, American Gas Association—(The A.G.A. Executive Board cancelled the annual convention at its meeting in New Orleans, May 4. (See page 34.)

October

National Safety Congress and Exposition—Chicago, Ill., October 5-9.

Independent Petroleum Association of America, 13th Annual Meeting—Wichita, Kan., October 13-15.

November

American Petroleum Institute, 23rd Annual Meeting—Stevens Hotel, Chicago, Ill., November 9-13.

Mid-Southwestern Gas Association Meeting—Dates not definite.

Wisconsin Association Elects Officers Through Mail Ballot

VOTING members of the Wisconsin Utilities Association indorsed the selections of the nominating committee and by mail ballot recently elected the following officers for the fiscal year beginning May 1:

Edward R. Felber, vice president and sales manager, Madison (Wis.) Gas & Electric Co., president; John G. Felton, district manager and a director of the Northern States Power Co., LaCrosse, Wis., vice president; and D. W. Faber, secretary, Wisconsin Public Service Corp., Milwaukee, treasurer.

Mr. Felber succeeds L. F. Seybold to the presidency and Mr. Faber succeeds L. T. Smith as association treasurer. Mr. Felber was chairman of the Commercial Section in 1929 and chairman of the Mid-West Regional Gas Sales Conference of the American Gas Association in 1940. He graduated from the University of Wisconsin Mechanical College in 1922 and began work for the Madison Gas & Electric Co. while attending the university. He became a full-time employee of the company that year and in 1928 was made sales manager. He became vice president in 1937 and a director in 1939.

Mid-West Gas Association Elects Officers at Meeting

Officers elected at the 37th Annual Meeting of the Mid-West Gas Association held at Sioux City, Iowa, April 13 were as follows: H. K. Wrench, Minneapolis (Minn.) Gas Light Co., president; T. E. Rooke, Geo. D. Roper Corp., Rockford, Ill., first vice president; C. A. Bland, Iowa Power & Light Co., Des Moines, Iowa, second vice president; R. B. Searing, Sioux City (Iowa) Gas & Electric Co., secretary-treasurer.

H. K. WRENCH

The 1942 Gas School and Conference of the and Conference is scheduled to be held in Ames, Ia., Sept. 8-10.

Pennsylvania Gas Men Hold Dinner Meeting

The May meeting of the Pennsylvania Natural Gas Men's Association was held on May 22 at the Pittsburgh Athletic Association, Oakland, Pittsburgh, Pa. Principal speaker was Emil Hofsoos, vice president, Ketchum, MacLeod & Grove, Inc., Pittsburgh, who spoke on "Wartime Opportunities in Customer Relations." The association held a golf party at the Pittsburgh Field Club, June 2, according to B. H. Smyers, Jr., secretary.

wartime nutrition service that Gas Companies are now offering

Watch for this advertisement. It's scheduled for the June 13 issue of The Saturday Evening Post to tie in with the important, authoritative story on the National Nutrition Program by Paul V. McNutt, Director of the Office of Defense, Health and Welfare.

GAS COMPANIES ALL OVER THE COUNTRY are performing a valuable wartime service through their wholehearted support of the government's Nutrition Program. The work they are doing is important, not only to the health and welfare of our people, but also to the winning of the war itself.

We of Servel feel that this service is *so* important—in building *stronger* Americans, *stronger* men and women, boys and girls—that we're telling families everywhere about it.

The advertisement on the opposite page, which appears in The Saturday Evening Post during June, urges housewives to make the most of the expert home service advice their Gas Company is offering in the planning, preservation and cooking of foods that keep US fit.

"Home Volunteer" Program Ready

And to further aid Gas Companies in enlisting fullest cooperation of housewives in nutrition and conservation, Servel has developed a comprehensive "Home Volunteer" Program.

By this plan, your customers enroll as "Home Volunteers" and sign a Consumer Victory Pledge. This entitles them to up-to-the-minute booklets on food-buying, meal-planning, and the care of appliances—booklets which Servel has prepared with the help of the Office of Defense, Health and Welfare Services, and the Consumer Division, Office of Price Administration.

In addition, to stimulate local enthusiasm in this program, Servel offers you newspaper advertisements, radio scripts, display material and other promotional helps.

Today, plan to take advantage of the "Home Volunteer" Program. Put it to work creating interest in this important phase of America's war effort. It will help to keep your name before the public, enable you to bring to your customers' attention the qualities of the Gas Refrigerator and other Gas Appliances.

Stays silent...lasts longer

SERVEL
ELECTROLUX
GAS
REFRIGERATOR

WINS GOOD WILL FOR GAS AND GAS SERVICE

P.C.G.A. Technical Men Hold War Session

WHAT will probably be the last general gathering of technical leaders in the gas industry on the Pacific Coast for the war's duration took place May 21 and 22 at the Ambassador Hotel in Los Angeles, when the Technical Section of the Pacific Coast Gas Association held its Annual Spring Conference. About 200 delegates from the Western states attended.

Keynote of the meeting hinged upon the present emergency, and when Technical Section Chairman H. P. George, superintendent of transmission, Southern California Gas Co., called the general session to order it was to bring speakers on the timely subjects of "Adjustment of Consumer Service to Wartime Conditions," "The Protection of Personnel and Property," and "Wartime Curtailment of Construction and Maintenance Procedure." The speakers on these subjects were respectively: Don C. Ellswood, Southern Counties Gas Co. (see page 99); E. E. Ellis, Southern California Gas Co.; K. B. Anderson, Coast Counties Gas & Electric Co., and C. P. DeJonge, San Diego Gas & Electric Co.

The general session meeting on the second day likewise was devoted to defense topics, covering the utility's part in civilian defense and protective measures taken for the maintenance of transmission and distribution systems.

Speakers at the meeting were A. B. Newby, Southern California Gas Co.; C. D. Merritt, Pacific Lighting Corp.; F. E. Wilson, Pacific Gas & Electric Co.; C. F. Briscoe, Southern Counties Gas Co.; and W. M. Henderson, Southern California Gas Co.

The remainder of the program was devoted to parallel sessions. The Distribution Committee under Chairman R. L. Cook, Southern California Gas Co., covered such topics as special problems, constructions and maintenance, meters and regulators. The Transmission Committee under Chairman F. F. Doyle, Pacific Gas & Electric Co., covered the subjects of pipe protection, pipe line construction and maintenance, large volume measurement, and compressor plants. The Utilization Committee under Chairman H. W. Geyer, Southern Counties Gas Co., was devoted to two sessions: one on appliance installation; the second, on house heating research.

The first luncheon speaker was Frank Hanson, consulting illumination engineer, who discussed the problems of dimming out the coastal areas. This topic was particularly timely since the dimout along the California coast became effective during the latter part of May. The second luncheon speaker was Clarence J. Derrick, an authority on air raid precautions.

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New England Gas Ass'n Holds Divisional Meetings

THE New England Gas Association held Operating, Industrial and Accounting Division meetings last month.

At the Operating Division meeting, held at the Hotel Bancroft, Worcester, Mass., May 13, a gas main greasing demonstration was conducted by the Alemite Co. of Boston. Discussion conferences of the Meter, Distribution and Utilization, and Production groups were also held. The evening session was addressed by William Laverty, Cambridge (Mass.) Gas Light Co.; J. L. Turnan, Worcester (Mass.) Gas Light Co.; W. C. Slade, New England Power Service Co.; and Hall M. Henry, Negea Service Corp.

William H. Bliss, priorities specialist, Boston District Office, WPB, addressed the Industrial Division which met at the Hotel Kimball, Springfield, Mass., May 22, on "L-79 and Other Priorities Developments, and Alfred V. Leudemann, Mears-Kane-Ofeldt Co., spoke on "The Gas-Fired Steam Boiler in Off-Peak Periods." Robert C. LeMay, Connecticut Light & Power Co., Waterbury, acted as chairman for a round-table discussion.

Discussion conferences highlighted the Accounting Division meeting at the University Club, Boston, May 26. Discussion leaders were: J. H. Allison and R. J. Daniels. Speakers at the evening session were J. O. Hill, New England Power Service Co.; L. E. Reynolds, The Connecticut Light & Power Co., Hartford, Conn.; and C. G. Young, manager, Springfield (Mass.) Gas Light Co., and past president, New England Gas Association.

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Pennsylvania Gas Ass'n Holds Annual Convention

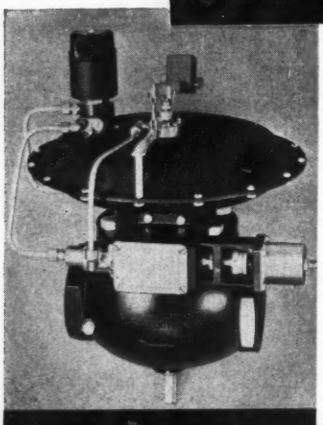
Delegates representing public utility gas companies throughout Pennsylvania met in Philadelphia May 18 for the annual convention of the Pennsylvania Gas Association, with P. T. Dashiell, vice president of the Philadelphia Gas Works Co., and president of the Association, presiding.

Normally a three-day convention, the program this year was streamlined into a single day and evening session.

Following Mr. Dashiell's opening address, George S. Hawley, president, American Gas Association, and L. A. Petersen, vice president, Otis Elevator Co., discussed the importance of gas in today's emergency.

The general sessions of the convention were addressed by Walter C. Beckjord, vice president, Columbia Gas & Electric Corp., Wilmington, Del.; George E. Whitwell, vice president, Philadelphia (Pa.) Electric Co.; N. W. Shefferman, Sears, Roebuck & Co.; and Dr. Allen A. Stockdale, whose talks were built around the theme of the convention, "Gas Industry Defense and the Road Ahead."

NEW
GENERAL CONTROLS
COMBUSTION CONTROL



GENERAL CONTROLS
SERIES B55G

The B-55-G Slow Opening Diaphragm Gas Valve is electrically piloted, and additionally acts to maintain a constant steam pressure at all times by throttling the gas flow and secondary air in direct proportion. The operating principle of the B-55-G is the same as the conventional type B-55 diaphragm operated fuel supply valve, with the additional feature of the governor, which regulates the fuel supply to the burner in direct relation to the steam pressure and eliminates the undesirable "hunting aspect" which is common to most throttling valves. Sizes: 1" to 6" I.P.S. WRITE FOR NEW CATALOG No. 51 containing complete specifications.

GENERAL CONTROLS
801 ALLEN AVENUE • GLENDALE, CALIFORNIA
Branch Offices: Boston • New York • Philadelphia • Atlanta • Cleveland
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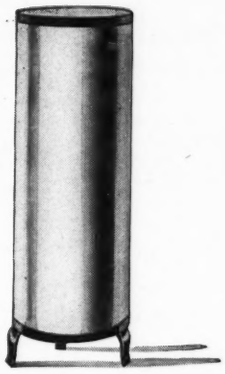

The *Everdur* that might have made this tank...

Instead—

made screws to fasten the hull of a powerful PT boat

It takes a *stout* metal for the job of fastening a wooden hull that is unbelievably stressed and strained as it pounds swiftly over wave-capped seas. Everdur* is strong, yes, and corrosion-resisting too. These qualities are essential, but so is toughness and malleability—freedom from brittleness. For these very reasons, Everdur has long been used for screws and bolts and water tanks and countless other things. These are also some of the reasons behind today's unprecedented demand for Everdur copper-silicon alloy.

ANACONDA
from mine to consumer

*Trade-mark of The American Brass Company, Reg. U. S. Pat. Off. 4265

Everdur COPPER-SILICON *Metal*

THE AMERICAN BRASS COMPANY— General Offices: Waterbury, Connecticut

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P.C.G.A. Holds War-Time Sales Study

THE Pacific Coast Gas Association Executive Sales Conference, sponsored by the Sales and Advertising Section of that association, met at the Ambassador Hotel, Los Angeles, Calif., June 4-5.

Sales and Advertising Section officers included: J. E. Kern, general supervisor, commercial sales, Southern California Gas Co., general chairman; C. L. Ferry, industrial engineer, Southern Counties Gas Co., commercial and industrial sales; Mrs. G. J. Meyer, Southern California Gas Co., home service; R. J. Phillips, engineer in charge of sales, San Diego Gas & Electric Co., domestic sales; and J. S. Spaulding, advertising manager, Southern California Gas Co., advertising.

Following the opening address of Mr. Kern, a discussion of "Federal Limiting Orders and How They Have Affected the Gas Industry," including Orders L-5-b, L-79, P-84, L-31, and P-46, was led by F. M. Banks, vice president, Southern California Gas Co., and vice president, Pacific Coast Gas Association.

Speakers at the Thursday afternoon general session included R. V. Davis, Southern California Gas Co., who spoke on "Results of 'Check Chart' Water Heater Service Program"; Bert W. Reynolds, Pacific Gas & Electric Co., San Francisco, who spoke on "How Dealers May Sustain Themselves During the War Emergency Period and Aid in Maintaining Appropriate Public Relations and Current Favorable Acceptance for Gas Appliances."

Parallel sessions of The Domestic Sales and Commercial and Industrial Sales Committees were held Thursday evening.

■ ■

Florida-Georgia Association Discusses Timely War Topics

Delegates attending the April 18 meeting of the Gas Meters Association of Florida-Georgia, held in Jacksonville, Fla., heard Ralph W. Carney, Coleman Lamp & Stove Co., Wichita, Kan., deliver the principal address titled "War on Two Fronts."

Newly elected officers of the association are: Irwin J. Wynn, vice president and manager, Gainesville (Fla.) Gas Co., president; and John O. Sholar, Florida Public Service Co., Orlando, Fla., secretary-treasurer. Since being elected to this position, Mr. Sholar has been commissioned a Lieutenant in the Army Air Corps, and Mrs. Mildred M. Lane, Florida Public Service Co., Orlando, has been selected to fill this office.

Menig, Rice Resign P.C.G.A. Manufacturers Section Posts

C. O. MENIG, chairman, and A. F. Rice, vice chairman, of the Manufacturers Section of the Pacific Coast Gas Association, have resigned their offices, effective June 1, to enter activities outside the gas industry for the duration of the war, it was revealed by Carl Swigart, P. C. G. A.'s manufacturers representative, at a meeting May 27 at the Mayfair Hotel in Los Angeles. Mr. Menig was vice president of the Pacific Gas Radiator Co., Huntington Park, Calif., while Mr. Rice was general manager of the Occidental Stove Co., San Francisco.

E. L. Payne, vice president of the Payne Furnace & Supply Co., Beverly Hills, Calif., and R. G. Logue, vice president of the Ward Heater Co., Los Angeles, have been appointed chairman and vice chairman, respectively, to serve out the unexpired terms of Messrs. Menig and Rice, which terminate on September 30. J. J. Delaney, general manager, Reliance Regulator Co., Alhambra, and E. S. Hoyt, Jr., president, Hoyt Heater Co., Los Angeles, were named alternate directors on the board of A. G. A. E. M., replacing Mr. Payne and Mr. Logue, who automatically become A. G. A. E. M. directors through holding office in the Manufacturers Section.

The meeting adopted a resolution of appreciation on behalf of W. H. Vogan for the servies he has rendered Pacific Coast manufacturers during his term as supervisor of the Los Angeles branch of the A. G. A. Testing Laboratories. Mr. Vogan is being temporarily recalled to the Cleveland Laboratories. A further resolution of appreciation was extended by the Section to Mr. Menig and Mr. Rice for the work which they have done.

■ ■

Indiana Gas Association Weighs War Emergencies

Inside and outside views of the gas industry's responsibility in the war emergency period divided attention at the annual meeting of the Indiana Gas Association held in Indianapolis, May 11-12. H. Carl Wolf, president, Atlanta (Ga.) Gas Light Co., and former head of the Indiana association, presented an operating man's ideas about the handling of emergencies due to sabotage or enemy attacks.

B. T. Franck, vice president, Milwaukee (Wis.) Gas Light Co., discussed how to get and hold business in the face of war emergency restrictions. Service problems that are getting tougher with materials and personnel suffering war inroads were discussed by J. M. Pickford, Northern Indiana Public Service, Hammond, Ind.; and C. A. Peterson and J. M. McCaleb, Citizens Gas & Coke Utility, Indianapolis, Ind. (See page 20.)

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No A. G. A. Combined Gas Exhibits to Be Held in 1942

Because of the uncertainty of conditions under which appliances and other utilization equipment will be sold and the predominant attention to the war effort, the American Gas Association has decided not to sponsor combined gas exhibits at national industrial and commercial expositions this year.

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C. N. G. A. June Frolic

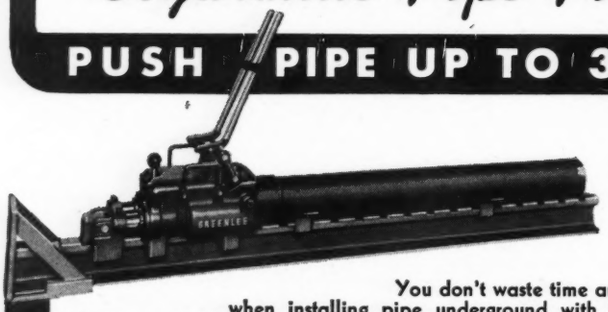
The 1942 June Frolic of the California Natural Gasoline Association was held at the Altadena Golf Club, Altadena, Calif., June 6, according to W. C. Dayhuff, C. N. G. A. president. The event, annually sponsored by the association, featured sports and a dinner.

20 and 75 TONS OF POWER

GREENLEE

Hydraulic Pipe Pushers

PUSH PIPE UP TO 36-INCH



No Extra Power Equipment Required

You don't waste time and money digging trenches when installing pipe underground with Greenlee Hydraulic Pipe Pushers. There's no pavement cutting, no tunneling, no backfilling, no repaving. Only a short trench is dug to accommodate the pusher and pipe, and one or two men pumping the handles can easily push pipe under sidewalks, streets, highways, embankments, and railroad tracks. The Greenlee No. 790 Pusher will push 1¼ to 4-inch pipe while the No. 795 Pusher, with a 75-ton hydraulic unit, will handle large drainage ducts, concrete sewer pipe, and pipe beyond 4-inch. Both Greenlee Pushers are built compactly into one unit, and are easily carried to the job and set up. No extra equipment of any type needed . . . the powerful hydraulic units do the actual pushing. Write today and learn how these Pushers can save you money on every pushing job.

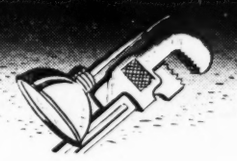
SEND FOR NEW S-117 PUSHER BULLETIN

GREENLEE TOOL CO.

1946 Columbia Ave. Rockford, Ill.

NEWS THE WHOLE INDUSTRY HAS BEEN WAITING FOR » » »

THE AUTHORIZED DEALER SERVICE and REPAIR PLAN!



WEEKS OF STUDY and discussion and organization have gone into this plan to help dealers weather the storm of restrictions and freezing orders, and also help appliance owners through a period when new appliances will be difficult or impossible to obtain. ☆ The plan calls for dealers who have the necessary equipment and personnel, or who can get them, to act as *factory-authorized repair and service headquarters,* while continuing to sell reconditioned appliances and such new things as may be on hand or available. ☆ The plan is everything that dealers have been asking for—tailor-made to fit appliances, replete with things to use and things to do, something in which all branches of the industry can work together and help each other. ☆ To name a few of the manufacturer and wholesaler contributions, there will be service manuals and periodic service bulletins, helpful procedures for training repairmen, assistance in getting tools and parts, advice in working out fair and reasonable price schedules for repair jobs and overhauls, and so on. ☆ The P. G. & E., on the other hand, will provide the advertising and promotional help to carry the story to the public and impress on Mr. and Mrs. Homemaker the need for keeping on top of repair problems rather than waiting for something serious—and expensive—to happen. This will be done via newspapers, billboards and radio, and will begin immediately! ☆ The bulletin officially announcing this program and carrying all the details should reach you soon. In it you will find the campaign slogan, "DURATION-IZE *your appliances with timely repair. A wartime necessity!*" We feel sure that as people come to appreciate the truth behind this slogan, dealers with a really top-notch repair service to offer will have all the work they can do.

P·G·and·E·
PACIFIC GAS AND ELECTRIC COMPANY

THIS PRECISION
ANUBIS
Portable
GAS BALANCE
is built for
FIELD USE

Completely
PORTABLE
.....Weighs only
20 POUNDS, complete
with Carrying Case

Here is a sturdy, precision-built instrument that will give you years of dependable service. It has all of the time-proved features of the previous model of ANUBIS portable gas balance plus important improvements in design and construction.

1. A new, larger front window permits easy reading of both extremes of the scale.

2. Thermometer is mounted **inside,** completely submerged in the gas sample.

3. All metal parts are heavily plated for resistance to corrosion.

4. Instrument is securely mounted on rigid metal base which has a central pilot hole that can be tapped with thread for any type of tripod.

Get the full particulars on ANUBIS Portable Gas Balances. They are adapted for use at low pressures or vacuum under actual line conditions.

Send for Bulletin No. 101

AMERICAN
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3113 E. 11th Street Los Angeles, Calif.
510 South Lansing Avenue Tulsa, Okla.

ABSTRACTS

• ABSTRACTS of papers presented at the American Gas Ass'n Natural Gas Section Convention, New Orleans, La., May 4-7, 1942.

The Operating Experiences With Automatic Closing Valves in a Natural Gas Transmission System — D. C. Palm, division superintendent, Natural Gas Pipeline Co. of America, Chicago, Ill. A high pressure valve assembly, closing automatically with a drop of pressure in the pipe line, has been developed in recent years and is now extensively installed on a long distance, large diameter, high pressure gas pipe line system. It will close automatically in case of a break in the pipe line on either side of the valve and will remain closed until manually opened, yet the valve is not affected by normal line pressure fluctuations due to service demands. The valve can be manually operated independent of the automatic control mechanism in a manner similar to the operation of any conventional hand-operated mainline valve.

Spot tests of valves in service have resulted in the closing of the valve automatically whenever the differential in the reservoir and pipe line is approximately 55 lbs., which is also the differential on the two sides of the piston. The closing takes place automatically whenever these pressure conditions are fulfilled, regardless of the rate of pressure drop. On an occasion during the past year, when a new loop section of pipe line was blown with the gas to remove foreign matter prior to placing it in service, the rate of pressure drop in the main line, which was the source of the gas supply for the blow, exceeded that which was anticipated. The result was that two sets of automatic valves closed. These were located at nine and 24 miles downstream from the point where the gas was released. Both sets of valves had closed 10 minutes after the beginning of the blow. The timing was verified by pressure recording charts on the system. This incident is the closest to simulating a main-line break which has been experienced and served as a further check on the satisfactory performance of the automatic valve. In the rather extensive operating experience in connection with automatic valves, there has not been a single case where a valve has closed irregularly on account of pressure fluctuations caused by load variations.

Some Factors Affecting Mud Control and Completions in the Chickasha Field —Arnold F. Parr, Oklahoma Natural Gas Co., Tulsa, Okla. In the Oklahoma gas field a recent serious blowout, wasting billions of cubic feet of gas and costing thousands of dollars, has caused operators in that area to re-examine their mud data on past wells to find mistakes that might have been disastrous and to prevent the recurrence of another blowout. To rely too much on native mud and to be indifferent toward mud treatment is to invite trouble. Mud logging was used on all of the Oklahoma Natural's wells drilled in the Chickasha field. In a field of steep dips, probable faults, and barren areas, it is more important than ever that as much information as possible be obtained while the well is being drilled. The Charlson sand has a closure of more than 1400 ft. and in parts of the field the dip is almost vertical. These mud logs, which incorporate both an accurate measurement of the drilling rate at all times and a running analysis of the mud for oil and gas content, are valuable for correlation. The mud logs were not used to replace electric logs, but rather to gain information prior to the time an electric log can be run and to supplement information obtained from electric logs. The mud logging unit is also equipped to give the operator detailed technical information concerning characteristics of the mud. It is possible that this service could enable operators lacking technical mud information to avoid loss of time and money due to stuck drill pipe, difficulties in running electric logs, bad cement jobs, or blowouts.

A Study of the Economics of Gas Pipe Line Design—F. W. Laverty and F. M. McNall, Clark Bros Co., Inc., Olean, N. Y.; Charles Hetherington, Massachusetts Institute of Technology, Cambridge, Mass.; T. Y. Ju, Universal Trading Corp., New York, N. Y.; R. L. Huntington, School of Chemical Engineering, University of Oklahoma, Norman, Okla. This paper has been condensed from a bulletin covering the design of long gas pipe lines which has recently been published by the Clark Bros Co., Olean, N. Y. In this investigation, such variables as pipe size, station spacing, compression ratio, and discharge pressure have been analyzed from the standpoint of their relationship to the annual cost of operating a pipe line. Through the use of the calculus, it is believed that some light has been thrown on this rather complex problem of selecting the most economical combination of conditions which would make for minimum cost. The cost equations and their differentiation with respect to the several variables involved should point the way toward a quick solution of any pipe line design problem.

Remedial Work on Gas Wells as Practiced in the Texas Panhandle—L. M. Batten, Cities Service Gas Co., Pampa, Texas. This paper discusses some of the factors that prevent maximum recovery of gas from existing wells, and presents certain methods of remedying these conditions. These methods are common in the Texas Panhandle district and may possibly be applicable to other areas. The most important subjects dealt with are improper completion practices, deterioration of equipment, improper operating practices, and abnormal declines.

Running Liners and Production of Gas Through Liners in the Panhandle Field—C. I. Galloup, field superintendent, Texoma Natural Gas Co., Amarillo, Texas. After several years' experience with gas production in the Panhandle Field, slotted liners set through the pay zone have become an essential part of this work. This applies particularly to the northwestern area of this field, where many shale beds are found between gas pays. Generally speaking, the gas in this

area is found in dolomite, lime, and granite wash. The pays are found at varying intervals and are interspersed with lenses of red and blue shale. Before liners were used, these shales caved badly, reducing if not completely shutting off the lower pay section by bridging the hole above them. This condition required frequent cleaning out of the wells in order to maintain production. These clean-out jobs were hazardous and often expensive due to the ever-present chance of going through a bridge into a charged portion of the hole. When this happened, the tools were blown up the hole, and consequently much wire line was ruined and many expensive fishing jobs resulted. These conditions brought about the use of liners in the field.

Determinations of Reserves in Relation to Recycling as a Conservation Measure—L. T. Potter, Lone Star Gas Co., Dallas, Texas. A knowledge of the amount and character of the reserves which may be available for processing in a cycling plant is necessary to a rational determination of the following items of planning in connection with such a project: The decision as to the economic justification for the project. The design of the plan in respect to both the size and type of plant to be utilized. The plan of development used in drilling wells in the field. The plan of operation to be applied to the field. The items of information which usually are available or should be made available as basic data are structure maps prepared from geophysical or other geologic information, electrical logs of wells, studies of formation samples from wells, drillers' logs of wells, studies of cores from wells, including analyses of cores, studies of rate of penetration recordings, tests of wells, including complete back pressure flow tests and distillate recovery tests; records of well completion, particularly with reference to the physical equipment installed in the wells and to the results of preliminary tests showing productivity or characteristics of the wells.

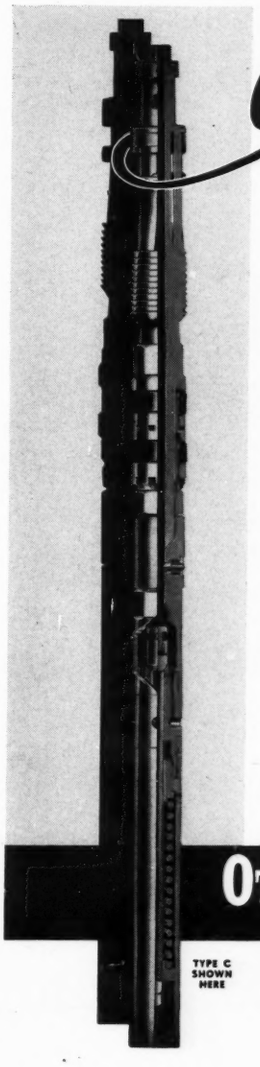
Theory and Application of Vibration Control—S. Rosenweig, president, The Korfund Co., Inc., New York, N. Y. The need of controlling machine vibrations is pretty generally recognized today. Wear on machinery, interference with precision adjustments, lowered efficiency of employees often resulting in an increased accident hazard are some of the local effects of vibration and the resulting noise. The effect of vibration transmission is heightened both by the increasing use of machinery in residential sections and the growing density of industrial centers. Modern building construction also complicates the vibration problems. Steel and concrete are excellent vibration conductors and present-day construction facilitates the passage of machine vibrations to all parts of the structure. Nor is this all, for vibrations are frequently carried through the soil to nearby structures, causing a nuisance that has often been the basis of legal suits.

Today the accepted cure is to interpose a resilient substance or medium in such a way that its elasticity will absorb the vibrations and prevent the mischief their wanderings cause. The selection of the absorbing medium and its proper adaptation and installation are discussed.

Drilling Mud Problems on Deep Wells—C. A. Sullins, Union Producing Co., Shreveport, La. A discussion of the drilling mud problems encountered in the drilling of three deep wells in three widely separated areas: South Texas, Southern Alabama, and Northern Louisiana.

Remedial Work in Connection With Production Methods—J. H. Isherwood, vice president and general manager, North Penn Gas Co. and affiliated companies, Port Allegany, Pa. Shortage of gas in Appalachian area, together with the Federal orders such as M-68, L-31, and many other regulations, has made the remedial work, in connection with production from gas wells, more important and necessary than at any previous time. Many wells which have been producing for years and have reached the border line volume of production can be placed on a profitable basis through further development work, which may consist of shooting at new or different depths, or even shooting wells which never have been shot before. Wells in this category can also be drilled deeper. In conjunction with this work it is often necessary to replace a complete string of pipe, packer, etc. When work of this nature is successful it places the well on a profitable basis for a period of years and accomplishes the worthwhile object of continuing the first investment of the well for an added number of years. Cost data are given for wells treated.

Drilling and Completion in High Pressure Areas—Frank E. Kendrick, geologist, Lone Star Gas Co., Dallas, Texas. When preparations are being made to drill in high pressure gas areas, one of the most important factors to be considered, whether the work is to be done by the operator, or contracted, is the selection of adequate drilling equipment. The discovery of deeper and deeper gas reservoirs, with their attendant higher pressures, has made the problem of controlling these an ever-increasing challenge to the industry. We have seen the elimination of cable tools except in limited areas, due to improved rotary drilling technique.



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PRODUCTION INSURANCE

OTIS TUBING SAFETY VALVE

A bomb—damaged surface connections—well goes wild—catches fire—craters—reservoir pressure dissipated—lost production . . . *yes, it can happen here.*

It means dollars lost to you as a producer . . . but even more tragic, it means a temporary or perhaps permanent reduction in vital reserves.

No recognized insurance company will underwrite the lost potential production of a wild well. The Otis Tubing Safety Valve is a form of insurance, *without a war clause*, that will prevent just such a catastrophe.

Installed at a safe subsurface depth the Safety Valve provides automatic control by shutting off all flow through the tubing the instant surface connections become damaged from any cause.

Offering positive protection for wells in military areas, the Otis Safety Valves are available in two types. The Type C is actuated by *Pressure Differential* and is adaptable to all flowing conditions. The Type B is actuated by *Flow Velocity* and is best adapted to wells with steady flow.

Check with your nearest Otis Representative or write direct for complete information and details.

OTIS PRESSURE CONTROL, INC.

DALLAS, TEXAS

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OTIS PRESSURE CONTROL SERVICE – EQUIPMENT

Lone Star Reduces Rates $2,071,140

THE Federal Power Commission, on May 5, announced its order directing the Lone Star Gas Co., Dallas, Texas, to reduce wholesale natural gas rates by $2,071,140 annually through establishment of a uniform 30¢ city gate rate for domestic and commercial gas to 280 communities in Texas and Oklahoma served by distribution plants owned by Lone Star Gas Co. and various affiliates, including Dallas Gas Co., Community Natural Gas Co. and Texas Cities Gas Co., effective May 15, 1942. The present gate rate is 40¢.

The estimated annual savings to domestic and commercial consumers in the principal communities affected are as follows (based on sales for the 12 months ended February 28, 1942): Greater Dallas, Texas, $686,000; Fort Worth, Texas, $315,000; Paris and Waco, Texas, $102,000; numerous other communities in Texas, $895,000; Durant, Frederick, and other communities in Oklahoma, $73,000. Besides the larger towns mentioned, communities in Texas substantially benefited by the reduction include Wichita Falls, Sherman, Denison, Vernon, Denton, Gainesville, McKinney, Electra, Chillicothe, and many other communities.

The commission allowed the Lone Star Gas Co. a return of 6½%, or $2,455,334 on a rate base of $37,774,368. The rate base represents the original cost of the company's properties in the amount of $54,159,368, less accrued depreciation and depletion of $17,185,000, plus $800,000 working capital. In arriving at the 30¢ gate rate, the commission found that the company's reasonable operating expenses are $5,327,746; annual depreciation and depletion, $1,677,534; and taxes, $1,585,459. These costs, together with return of $2,455,334, entitle the company to annual revenues of $11,046,073, the order indicates. The company's revenues for the 12 months ended February 28, 1942, were $13,099,637 and were thus excessive by $2,053,564.

The order followed a pre-hearing conference in Washington at which a waiver of hearing and acceptance of the findings of the commission by the company, and acquiescence in the order by the Railroad Commission of Texas, the Corporation Commission of Oklahoma, and the supervisor of public utilities for the city of Dallas, Texas, was accomplished. Representatives of the commissions, the city of Dallas and the Lone Star Gas Co. conferred with F. P. C. Commissioner John W. Scott and commission representatives at the conference on May 4, 1942, which was presided over by him.

Lone Star Gas Co. owns approximately 4400 miles of pipe lines in Texas and Oklahoma and transports natural gas which is ultimately consumed by domestic, commercial, and industrial users served principally by affiliated distribution companies. The principal sources of supply are the Texas Panhandle and East Texas fields.

■ ■

Natural Gas Rates
REDUCED!
NEW RATE TO SAVE RESIDENTIAL AND COMMERCIAL CUSTOMERS $2,000,000 ANNUALLY
To Our Customers:
By agreement, the reduction of $2,000,000.00 annually has become effective to customers served by Lone Star Gas System.
Lone Star Gas System

This full-page advertisement in the Dallas News of May 26 explains to readers the recent $2,000,000 annual rate reduction which went into effect in 280 Lone Star towns on May 15. Message in the ad addressed "To Our Customers" is written over the signature of Lone Star President D. A. Hulcy. The page ad will appear in all publications in those towns where the reduction in rates to domestic and commercial customers is effective.

Kansas-Nebraska Natural Gas Purchases Ak-Sar-Ben Co.

The Kansas-Nebraska Natural Gas Co., Phillipsburg, Kan., has purchased the property of the Ak-Sar-Ben Natural Gas Co., Oxford, Neb., according to an announcement by Reece McGee, president of the latter company. No information regarding the purchase price was given.

The Kansas-Nebraska Natural Gas Co. now owns 1100 miles of pipe line serving 25 communities in Kansas and 65 in Nebraska. With gas supplied from the Hugoton field in Kansas, the company's Nebraska territory extends from Ogallala to New York and Exeter.

SEMET-SOLVAY
ENGINEERING CORPORATION

Blue Gas Plants
Water Gas Machines
Washer Coolers
Naphthalene Scrubbers
Gas Purifiers
Condensers
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40 RECTOR STREET, NEW YORK, N. Y.

VALVES and Accessories for Gas Burning Appliances
THE W. J. SCHOENBERGER CO.
CLEVELAND···OHIO

Natural Gas Pipeline Co. of America Reduces Rates for 10 Utilities

THE Federal Power Commission has announced its approval of new wholesale rate schedules for natural gas sold by the Natural Gas Pipeline Co. of America, Chicago, Ill., to 10 utility customers which will result in reductions of approximately $3,700,000 a year.

The new schedules will result in a refund of $6,283,149.86, representing excess charges collected by the pipe line company during the period September 1, 1940, through March, 1942, from wholesale purchasers of natural gas.

The new rates reduce the cost of natural gas to the following customers: Chicago District Pipeline Co., Iowa Illinois Gas & Electric Co., City of Nebraska City, Iowa-Nebraska Light & Power Co., Iowa Power & Light Co., Kewanee Public Service Co., Illinois Northern Utilities Co., Princeton Gas Service Co., United Gas Service Co., and Central States Electric Co.

Largest reduction is $3,490,777 to the Chicago District Pipe Line Co., which sells gas purchased from Natural Gas Pipeline Co. to Peoples Gas Light & Coke Co. for resale in Chicago; to Public Service Co. of Northern Illinois for resale in Evanston, Oak Park, Cicero, Kankakee, Pontiac, Streator and other Illinois communities; and to Western United Gas & Electric Co. for resale in Aurora, Elgin, Joliet and over 60 other Illinois towns. Chicago district also sells natural gas to the Northern Indiana Public Service Co. for resale in Crown Point, Elkhart, Hammond, Logansport, Nappanee, South Bend and a number of other Indiana communities.

■ ■

Northern Natural Gas Co. Distributors Get Annual Rate Decrease of $320,000

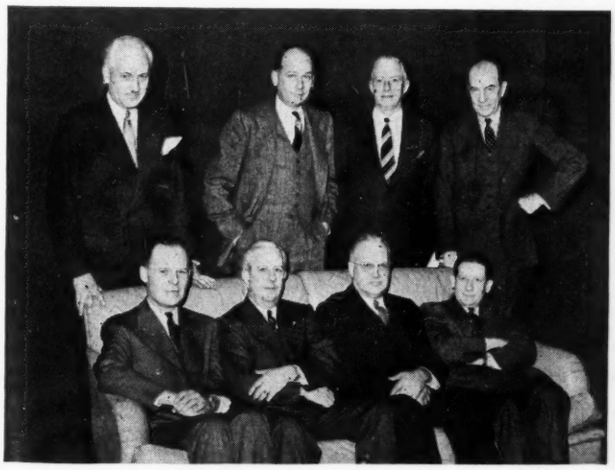
The Federal Power Commission has announced its order allowing optional wholesale rate schedules filed by the Northern Natural Gas Co., Omaha, Neb., to take effect retroactively as of April 4, 1942. The optional schedules constitute offers of reductions in the natural gas bills of approximately 24 distributors purchasing gas from the Northern company for resale in the states of Iowa, Kansas, Minnesota, Nebraska, and South Dakota of $320,000 annually.

Principal reductions are offered to Central Electric & Telephone Co., $27,937; Iowa-Nebraska Light & Power Co., $58,861; Peoples Natural Gas Co., $69,511; and Minneapolis Gas Light Co., $50,405.

■ ■

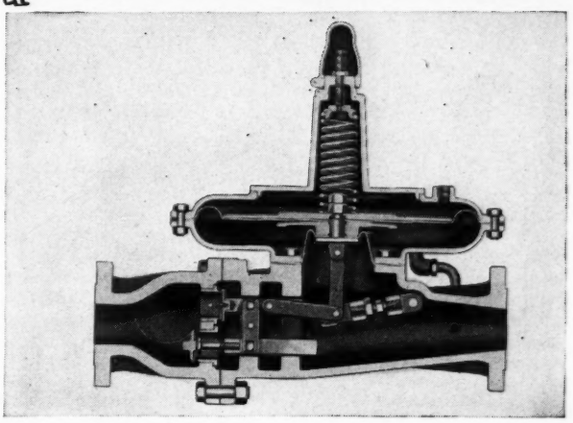
Panhandle Eastern Asks F.P.C. For Certificate of Convenience

The Federal Power Commission has announced its receipt of a joint application filed under Section 1(c) of the Natural Gas Act, as amended, by Panhandle Eastern Pipe Line Co. and its wholly owned subsidiaries, Illinois Natural Gas Co. and Michigan Gas Transmission Corp., for a certificate of convenience and necessity covering applicants' integrated natural gas system. The principal place of business of all the applicants is alleged to be in Kansas City, Mo. The system totals more than 1200 miles and serves more than 200 communities at wholesale.



Snapped at Minneapolis-Honeywell Regulator Co.'s recent annual board of directors meeting were (left to right) standing: C. J. Quinn, President H. W. Sweatt, R. P. Brown, M. C. Honeywell. Seated: C. C. Buckland, W. S. Huff, George DuToit, and Vice President C. B. Sweatt.

REYNOLDS TOGGLE TYPE REGULATORS INSURE ACCURATE INDUSTRIAL Gas CONTROL



REYNOLDS Toggle Type Regulators for Industrial Gas Control, proved by performance in actual operation, guarantee smooth, constant outlet pressure and volume even though inlet pressure and volume are decidedly jumpy. Some of their outstanding features are: Removable Valve Pocket and Orifices—Side Hand Holes—Streamlining that Directs the Flow of Gas, increasing Capacity and Range—Pressure and Reduction* from Pounds to Pounds and Pounds to Inches W. C. —Single or Double Valve Construction—Spring or Dead Weight Type Adjustment and Equipped with or Without Pilot Control.

**Body of Regulator is so machined that a pounds to pounds diaphragm casing or a pounds to inches W. C. diaphragm casing may be used or interchanged. Also equipped with removable inlet spool with orifices which permits installation of various sizes of orifices while Regulator is in pipe line.*

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GAS CONTROL SINCE 1892

REYNOLDS GAS REGULATOR CO
ANDERSON INDIANA U.S.A.

PEOPLE

E. C. Joullian, president, Consolidated Gas Utilities Corp., Oklahoma City, Okla., has announced several personnel changes in his company, made necessary when **E. A. Bartolina,** general superintendent at Wichita, Kan., joined the Army Air Corps. **W. M. Habbernigg,** formerly superintendent at Blackwell, Okla., succeeded Mr. Bartolina. **Roy Carlton** was moved from Sayre, Okla., to become superintendent at Blackwell, and **E. M. Holcomb,** former local manager at Weatherford, Okla., has succeeded him.

• •

John J. Barada, director of safety and compensation, Laclede Gas Light Co., St. Louis, Mo., has taken over the duties of **Dee W. Goodwin,** who has resigned to accept a position as director of industrial relations with the McDonnell Aircraft Corp. Mr. Barada's new title is director of safety and employment. Mr. Barada became employed by Laclede in 1911. In 1916 he enlisted and served two years in the foreign service. Upon returning to this country he was again employed by Laclede. In 1922 he became a safety engineer with the Scullin Steel Co. Three years later he again joined Laclede, where he has been steadily employed since 1925. Mr. Barada is a Major in the U. S. Army Reserve, corps of engineers.

• •

Harrison Musgrave, non-technical employee training supervisor, Southern California Gas Co. and Southern Counties Gas Co., Los Angeles, has been commissioned a Captain in the Army Air Corps and will be stationed at the West Coast Air Corps Training Center, Santa Ana, Calif., where he will join **Robert W. Miller,** former president, and **Robert A. Hornby,** former vice president, Pacific Lighting Corp., San Francisco, who have been commissioned as Captain and Major, respectively.

Robert "Bobby" Decker, special sales representative, Southern California Gas Co., has accepted a Second Lieutenancy in the Army air force and will also be stationed at the Santa Ana air base, where he will supervise the baking for 20,000 aviation cadets. **S. A. Bradfield** has been appointed leakage engineer, **L. E. Pickup,** division engineer, and **W. F. Conner,** foreman of the Los Angeles meter shop of the Southern California company, according to **Elting Henderson,** general superintendent of distribution. Mr. Conner, who has worked in the meter shop since 1928, will succeed **Harry A. Gregory,** who retired June 1.

• •

At a meeting held recently at the Baker Hotel, Dallas, Texas, **Will C. Grant,** advertising director, Lone Star Gas Co., that city, was appointed chairman of the Dallas Noise Abatement Committee. Mr. Grant's appointment was made by **William Reynolds,** advertising manager, Servel, Inc., Evansville, Ind., and president of the National Noise Abatement Council, which is sponsoring the National Noise Abatement Week, May 31 to June 6. Plaques will be awarded in five cities of different population groups doing the most to abate noises during the next year.

• •

Howard C. Clark of the American Gas Association Testing Laboratories, Cleveland, Ohio, on April 15 resigned to enlist in the United States Naval Reserve. Mr. Clark, the sixteenth engineer to leave the Laboratories for service in the armed forces during the past year, was a Laboratories inspector. Previous to his appointment as an inspector, he tested different types of gas appliances. He joined the Laboratories staff in June, 1939. Graduating from Ohio Northern University in 1937 with a bachelor of science degree in mechanical engineering, Mr. Clark served for a time as Hardin County engineer at Kenton, Ohio. Later he was employed by the Hydrill Company of Pennsylvania and by the Ohio Forge and Machine Corp., Cleveland, Ohio Forge and Machine Corp., Cleveland.

• •

D. E. Maloney has been promoted to agent of the Cleveland division of The East Ohio Gas Co., succeeding **George S. Harris,** who has retired after 36 years of service with the company. **Walter S. Frick,** who has been with the company 24 years, was appointed assistant agent. Mr. Harris has been a member of the Accounting Section of the American Gas Association for many years. Mr. Maloney joined the company as assistant to the general superintendent in 1916. His new position includes directing the preparation of the bills for the entire company, serving 64 cities and communities in Ohio.

• •

George L. Ballard, for the past 10 years industrial sales engineer for the Panhandle Eastern Pipe Line Co., Kansas City, Mo., has been transferred to the Detroit office of the Panhandle system. For the past five years Mr. Ballard has been stationed at Springfield, Ill. He will now have charge of all industrial sales-promotional work for the company. A graduate of the University of Wisconsin, Mr. Ballard was affiliated with Cities Service Co., Bartlesville, Okla., before joining Panhandle Eastern. He was chairman of the Mid-West Industrial Gas Sales Council of the Industrial and Commercial Gas Section of the American Gas Association during 1941.

• •

J. William Ferguson recently resigned as assistant gas engineer, Canadian River Gas Co., Amarillo, Texas, to become associate natural gas engineer, U. S. Bureau of Mines staff, Helium Plant, Amarillo, Texas, according to **R. A. Cattell,** chief, Petroleum and Natural Gas Division of the bureau.

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Charles D. Byrd, who has been the chief statistician of the Association of Gas Appliance and Equipment Manufacturers since 1936, has joined the Army and is in training at Camp Chaffee, Ark.

★★★ "Keep'em frying" ★★★

with PITCO Frialator

CONSERVES FAT - GAS - SPACE

USE PITCO FRIALATORS

Your interests in saving fat, gas and space for Uncle Sam are identical with ours as well as every restaurant, hotel, club, cafeteria, lunchroom and diner in the nation. Stop each and every profit leak which is an automatic conservation plan.

PITCO FRIALATORS are not only a highly satisfactory dividend payer, but you can depend on them to *Conserve Fat* — speed up meal production—utilize gas efficiently—combat competition ... and they produce a constant excellence of quality that is not obtainable otherwise.

You—and every other gas executive—are vitally interested in war-time economies and gas conservations. Write us for information on the cooperation which we are extending to the Gas Companies.

J. C. PITMAN & SONS, INC., 711-719 Broad St., Lynn, Mass.

THE QUALITY OF PAYNEHEAT EQUIPMENT IS STANDING USERS IN GOOD STEAD TODAY!

★ ★ ★

W. H. VOGAN

W. H. Vogan, supervisor of the Los Angeles branch of the American Gas Association Testing Laboratories, has been recalled to the Cleveland Laboratory to engage in work directly connected with the war effort, according to word received from **R. M. Conner,** director of the Laboratories. **Fred Allen,** who has been assistant supervisor of the Los Angeles branch, will act as supervisor during Mr. Vogan's absence.

Mr. Vogan came to the Los Angeles branch of the Laboratory from Cleveland in April, 1939, replacing **F. O. Suffron,** who was then supervisor. At that time the Laboratories were developing and expanding and Mr. Vogan played an important role in supervising the finishing of the new Laboratory building on Grande Vista Ave. in Los Angeles and in the installation of equipment in it.

• •

Scott Hughes, legal counsel, Southern Union Gas System, Dallas, Texas, has been commissioned a Lieutenant in the Intelligence Division, U. S. Army Air Corps, and has reported for duty at Miami, Fla.

H. G. Connatzar, assistant treasurer, and **T. J. Uhl,** assistant secretary of the Lone Star Gas Co., Dallas, Texas, have been elected treasurer and secretary, respectively, according to **D. A. Hulcy,** president of the company. The new officers will assume the duties formerly discharged by the late **D. L. Cobb** (see page 52 this issue of *GAS*). Mr. Connatzar has been with the company 25 years and has been assistant treasurer since 1922. Mr. Uhl joined the company in 1919.

• •

Harry Mark Shackelford, vice president, Johns-Manville Co., New York, N. Y., has been appointed executive secretary to **John T. Madden,** chairman of the U. S. Treasury War Bond Pledge Campaign for Greater New York. In his volunteer job for the mammoth campaign to run June 14-24, Mr. Shackelford will oversee the details in securing pledges of $1,900,000,000 savings annually in U. S. War Bonds and Stamps for Greater New York. Mr. Shackelford was a second lieutenant in the field artillery during World War 1. Fifteen years ago he joined Johns-Manville in the sales promotion division and worked steadily up to his present ranking position.

• •

Herbert H. McMurray, advertising manager, Washington (D. C.) Gas Light Co., has been ordered to active duty as a first lieutenant in the Army Air Corps and has reported at Shepherd Field, Texas. Mr. McMurray is a graduate of DePauw and National Universities. He has been associated with the Washington Gas Light Co. for the last 12 years, and also served as publicity director of National University.

• •

Major T. J. Strickler, vice president and general manager, the Kansas City (Mo.) Gas Co., was re-elected a director of the United States Chamber of Commerce at the annual meeting held in Chicago recently. Major Strickler is now starting on his fourth two-year term as director of this organization.

• •

L. B. Denning, Jr., vice president and operating manager for Community Natural Gas Co. and Texas Cities Gas Co., Dallas, Texas, has announced the appointment of **James M. Jacks** to sub-district manager of

C-F

A few C-F Regulators representing a full line for all needs of PRESSURE CONTROL

Gas, oil, steam, water, air, at any pressure up to 2,000 pounds, can be controlled and handled at reduced pressures as desired, by use of the proper C-F Regulators. For all pressures up to 600 pounds, standard designs are suitable. For pressures above that limit special designs are adapted according to conditions of use. Please state your requirements and suggestions will be offered.

THE CHAPLIN-FULTON MFG. CO.

38 PENN AVE. PITTSBURGH, PA.

GAS—1709 W. 8th Street, Los Angeles, California

Yes! SEND ME GAS for 2 Years at $3.00

SUBSCRIPTION RATES: United States, Mexico, Cuba, South and Central American countries (in advance), two years $3.00; all other countries, $3.00 per year.

Name..... Position.....

Company.....

Address.....

City..... State.....

☐ Check enclosed ☐ Send bill

the recently established McGregor sub-district in the Gatesville district of Community Natural Gas Co. Mr. Jacks was formerly located at Gatesville.

• •

C. B. Sweatt, vice president in charge of sales, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., has announced the appointment of **Fred Kaiser** as zone manager of the Chicago zone, replacing **Charles L. Saunders,** who recently resigned to associate himself with the War Production Board at Washington, as chief of the Instrument Section in the Machinery Division. Mr. Kaiser has been manager at Detroit for the past three years and prior to that time manager at Buffalo and Syracuse, N. Y. He started with the company as a service salesman in 1926. **D. J. Peterson,** branch manager at Buffalo, N. Y., has been appointed branch manager at Detroit, succeeding Mr. Kaiser. Mr. Peterson has been with the company 16 years. He was manager at Buffalo for the past three years and prior to that time was stationed at Chicago, Minneapolis and Detroit. He will be succeeded at Buffalo by **Herman Seelbach, Jr.,** who has been attached to the air conditioning division there.

• •

First man from the Cincinnati (Ohio) Gas & Electric Co. to be with the United States armed forces in both World Wars is **Richard J. Stall,** who has been field supervisor in the gas commercial department of that company for the past 13 years. Mr. Stall is now a Captain in the Army Air Corps at Miami Beach, Fla. Captain Stall was a private with the Marine Corps overseas in World War 1.

• •

Edwin J. Schwanhausser of Buffalo, N. Y., vice president, Worthington Pump & Machinery Corp., Harrison, N. J., has been elected to the corporation's board of directors, filling a vacancy created by the death of **Edward T. Fishwick** (*GAS*, May, 1942, p. 71). Mr. Schwanhausser has been a member of the Worthington organization since 1915. In 1929 he was appointed manager of the corporation's Buffalo works and was advanced to the position of vice president in 1939.

The board of directors has elected **Charles Neal Barney** of Scarsdale, N. Y., a vice president of the corporation. A member of the organization from 1918, he has been treasurer since 1931, as well as the head of the corporation's legal department.

• •

James H. Doak, The Connecticut Light & Power Co., Meriden, Conn., was elected chairman of the Industrial Division of the New England Gas Association at a recent meeting of the division in Boston, Mass. At the same time, **George A. Carlson,** Fitchburg (Mass.) Gas & Electric Light Co., was elected vice chairman and **Bernard T. Poor,** Blackstone Valley Gas & Electric Co., Pawtucket, R. I., was named secretary and treasurer.

• •

H. J. Carson, vice president, Northern Natural Gas Co., Omaha, Neb., has announced the appointment of **J. P. Bristow** as chief engineer and **J. T. Innis** as assistant chief engineer of that company. Mr. Bristow was formerly assistant chief engineer and Mr. Innis, engineer of construction. Mr. Carson and **R. J. Organ,** general counsel of the company, were recently elected directors of the company.

• •

H. Stuart Johnston, former secretary-treasurer of the Gas Meters Association of Florida-Georgia for the past four years and gas sales manager for the Florida Public Service Co., Orlando, Fla., for the past 10 years, has been ordered to report for duty with the Army Air Corps. Mr. Johnston, who holds the rank of Captain, served with the Marines in the last war.

• •

Announcement of the appointment of **T. A. Morgan** as valuation engineer for Houston (Texas) Natural Gas Corp. has been made by **Frank C. Smith,** company president. Mr. Morgan succeeds the late **Charles H. F. Horn.** Mr. Morgan began work for the Lone Star Gas Co., Dallas, Texas, in 1929. He joined Houston Natural Gas Corp. in 1939.

• •

Carl M. Hill, an employee of the Lone Star Gas Co. for 12 years, has recently been appointed assistant field supervisor of the production department. His assignment of duties will be made up entirely of work in the Dallas (Texas) office. **Austin J. Hargrave** has been appointed district production engineer at Coleman to succeed Mr. Hill.

• •

H. G. Texter, who has been connected with the Tulsa, Okla., office of Spang Chalfant, Inc., for many years as sales engineer, has been transferred to the Albridge, Pa., plant of the company. He will be engaged in engineering work in connection with the company's large war production program.

• •

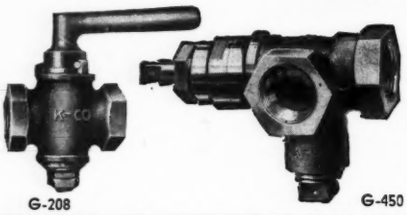
C. S. Worley, engineer and purchasing agent, Consolidated Gas Utilities Corp., Oklahoma City, Okla., assumed his duties as vice

"K-CO" TRADE MARK *Guarantees Good Low and High Pressure*

GAS STOPS

G-205

• Truly precision-built products; made of finest grade materials; accurately machined; carefully tested.



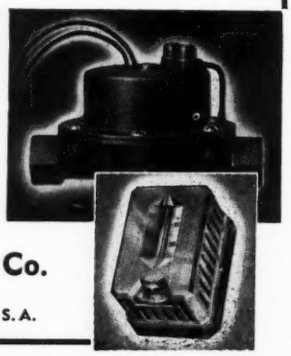
G-208 G-450

Products of **KITSON CO.**
1500 WALNUT ST., PHILADELPHIA, PA.
MEMBER OF THE WELSBACH GROUP

Silent Partners

KLIXON GAS CONTROLS

Klixon Gas Valves and Klixon Room Thermostats are quiet, efficient workers. The thermally operated valves—free from solenoids—don't hum, stick or chatter. And the snap-acting thermostats are non-arcing and non-radio-interfering. They are the simplest, most satisfactory controls you can use for gas heaters. They are available to any manufacturer with proper preference ratings. Write for complete information.



KLIXON

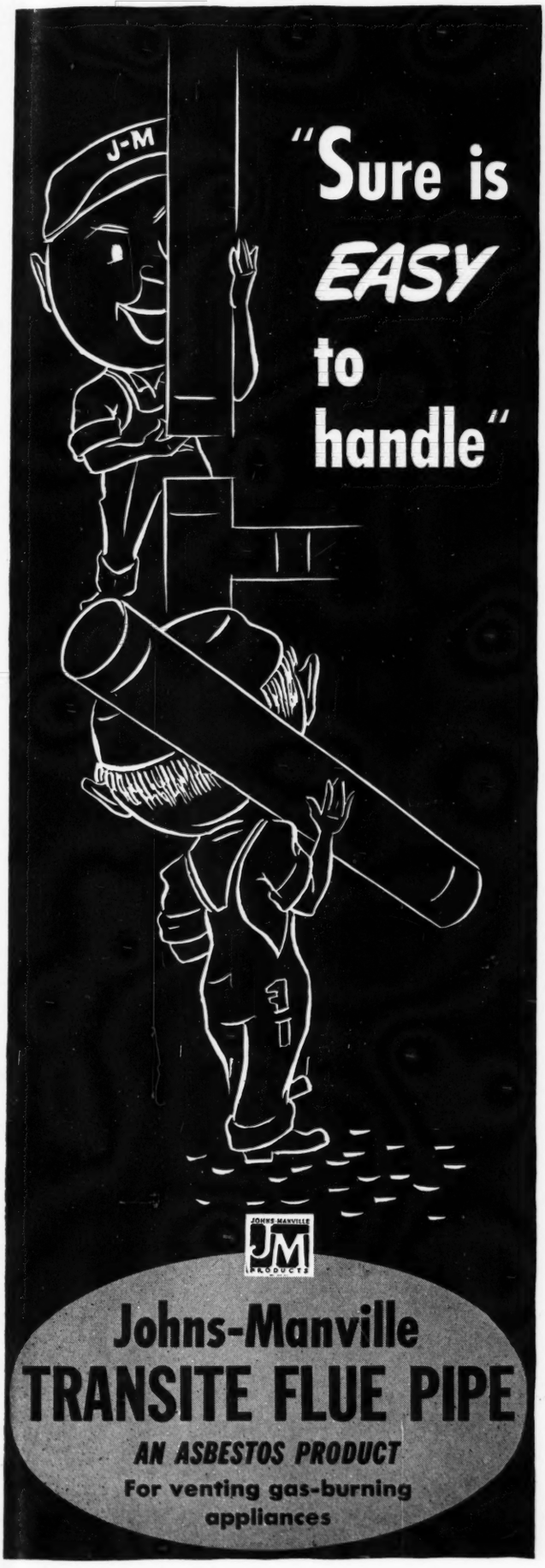
Spencer Thermostat Co.
803 Forrest Street
ATTLEBORO, MASSACHUSETTS, U.S.A.

NEED A DRILLING MACHINE ?

For those "hurry-up" jobs this "E-4" machine is just what you need. It is easy to handle, fast, and drills through stops, valves, and fittings which have been welded or clamped onto the main. Any size hole from 7/16" to 1". Either dry pipe or pressure mains . . . Interested? Write Dept. G-41.

MUELLER CO.

Decatur, Ill. - - - - Los Angeles, Calif.



This war is
DIFFERENT
Mister!

WE MIGHT as well face the facts — this isn't going to be any push-over. It isn't something we can leave to the other fellow. We're all in it and we've all got to produce — fast.

We can't afford to guess about efficiency and we can't waste any time in arriving at peak production. We need it now — yesterday, in fact.

Efficiency in gas purification is just as important as in anything else. It's just another link in this stupendous program of ours. And if there's any question in your mind about your purification system or the purifying materials you are using, we urge you to consult Connelly today. Our engineers, backed by more than 77 years experience in gas purification, are at your service. They'll gladly submit unbiased recommendations without cost or obligation.

Consult Connelly — today.

Connelly IRON SPONGE

Connelly IRON SPONGE and GOVERNOR CO.
CHICAGO • ELIZABETH, N. J.

Want To Know What GOOD INSTITUTIONAL ADVERTISING is?

New manual answers that, and many other urgent questions about war-time advertising.

FREE

90 Pages of Practical Help

The "Guide" demonstrates, by example, how your advertising, too, can help fight the war; help customers; help build a sound foundation for future business.

Shows How Advertising Can Help Our War Effort. "A Guide To Effective War-Time Advertising" contains actual cases, described by the manufacturers concerned, illustrating how to use your space to transmit important information from where it is to where it is needed; quickly, accurately, and economically. In the "Guide," business leaders tell what their problems were (many have not been able to sell a thing to regular customers for almost two years), how they are using advertising to help solve current customer-relations problems, and what they are getting out of it.

A VERITABLE "WAR ALBUM"

The "Guide" is only our *introduction* to a collection of up-to-the-minute case studies that will be sent to you without cost as they're produced, if you order your "Guide" now.

Want Advertising That Works Today? Today's conditions have *increased* rather than lessened the need for making business paper advertising *useful, informative,* and *specific.* Every case illustrated in the "Guide" is the kind of advertising that demonstrates its own worth; that *needs no defenders!* It shows how to make your advertising useful to your customers and prospects at a time when help is so desperately needed.

The "Guide" will show how your company can use advertising today, not as a license to boast, but as a vehicle of communication that will help you help fight the war, and help you build a sound foundation for future business. One copy is yours for the asking, if you'll ask before they're all gone.

FREE

GAS, 1709 W. 8th St., Los Angeles, Calif.

ABP

Please send, without obligation, my free copy of "A Guide To Effective War-Time Advertising."

NAME.....

POSITION.....

COMPANY.....

STREET.....

CITY & STATE.....

president, National Association of Purchasing Agents, during its convention held May 25-27 at the Waldorf-Astoria Hotel, New York, N. Y. Mr. Worley had been previously elected to the office to become effective during the 1942 meeting.

• •

William A. Roever, sales engineer since 1937 for Clark Bros. Co., Inc., compressor manufacturer, first at the Dallas and later at the Houston branch office, has recently been called to military service at Camp Wallace, Texas. Lieut. Roever was graduated from Washington University with a B. S. degree in mechanical engineering in 1930.

• •

Hudson W. Reed, executive vice president of The Philadelphia (Pa.) Gas Works Co., has been elected a director of the American Gas Association. He succeeds **Conrad N. Lauer,** president of the same company, who served the association as president in 1939, and who has long been a director of that organization.

• •

A. H. Bruning, commercial manager, Florida Public Service Co., Orlando, Fla., for the past five years, and president Gas Meters Association of Florida-Georgia, 1939-40, has accepted a First Lieutenancy in the Engineering Division of the U. S. War Department and has reported for duty in the Caribbean Defense Command.

• •

D. E. Buchanan, vice president of Hanlon-Buchanan, Inc., Tulsa, Okla., has received a year's leave of absence and has assumed duties as director of the natural gas and natural gasoline section of the production division of District 2 of the Office of Petroleum Coordinator in Houston, Texas.

• •

R. G. Follis, who started as an office boy with Standard Oil Co. in 1918, has been elected vice president and director to succeed **A. S. Russell,** who has retired after 31 years of service with the company. Mr. Follis will retain his position as general manager of the manufacturing department.

• •

F. E. Rice, Phillips Petroleum Co., Bartlesville, Okla., has been appointed chairman of the American Petroleum Institute's Division of Production Central Committee on measuring, sampling, and testing natural gas and natural gasoline. **George P. Bunn,** also of the Phillips Co., is vice chairman.

• •

C. V. Allen, office manager for Texas Cities Gas Co., Galveston, has resigned his position, effective May 31, to enter another field. He is succeeded by **L. M. Spence,** former credit manager for Council Bluffs (Iowa) Gas Co.

• •

L. S. Hamaker, general manager of Berger Manufacturing Division of Republic Steel Corp. for the past eight years, has been promoted to assistant general manager of sales of the parent company, and will have his headquarters in Cleveland, Ohio.

• •

William R. Gignilliat, vice president of the Southern Natural Gas Co., Birmingham, Ala., has resigned his position to accept a commission as a Major in the Army Air Corps. Major Gignilliat served as a Captain in the first World War.

• •

Leo T. Crowley, chairman and president of the Standard Gas & Electric Co., New York, N. Y., has been named alien property custodian by President Roosevelt.

Obituaries

D. L. Cobb

Delmore L. Cobb, 65, secretary-treasurer of Lone Star Gas Co., Dallas, Texas, and the last remaining executive who joined the company upon its founding in 1909, died suddenly May 9.

Mr. Cobb was brought to Texas from Arkansas a year after his birth, his parents moving to Corsicana, the first Texas city to have natural gas service. He graduated from Southwestern University at Georgetown in 1898. His first step in the fuel industry was secretary of the Navarro Oil & Refining Co. where he remained 10 years. Joining Lone Star 33 years ago, he had a large part in shaping its policies and organizing its records and accounting procedure. At various times Mr. Cobb was active in numerous associations connected with the oil and gas industry.

• •

H. R. Sterrett

Harold R. Sterrett, 53, former president and member of the directorate of the New Haven (Conn.) Gas Light Co., died recently. He had been in ill health for two years, retiring from the presidency a year ago. He had been president of the New England Gas Association and of the Mid-West Gas Association. Before coming to New Haven in 1929 Mr. Sterrett was an executive of the Philadelphia (Pa.) Gas Works Co., the Counties Gas & Electric Co. of Ardmore, Pa., and the Des Moines (Iowa) Gas Co. He was elected president, New Haven Gas Light Co. in 1935.

• •

A. F. Crockett

A. E. Crockett, 69, special sales representative for the Jones & Laughlin Steel Corp., Pittsburgh, Pa., died May 20. Mr. Crockett had been associated with Jones & Laughlin since 1915 when he joined the organization as an engineer. In 1919 he was appointed manager of the bureau of instruction and later was made special sales representative. He devoted himself primarily to educational work, lecturing at colleges and before engineering and technical societies on the manufacture of iron and steel products.

• •

A. L. Miller

Arthur Leonard Miller, 51, new business representative of The Gas Service Co., Carthage, Mo., died recently following a major operation. Mr. Miller has won national recognition in numerous special Servel campaigns. Last year he won a trip to the A.G.A. Convention and a trip to Miami and Havana.

• •

J. A. Meredith

Judge James A. Meredith, 67, chief of the Monongahela System's legal staff, and one-time member of the West Virginia Supreme Court of Appeals, died recently in Fairmont, W. Va. Judge Meredith had been connected with the Monongahela West Penn Public Service Co. since 1935.

• •

T. F. Kittredge

Theodore Franklin Kittredge, 55, Little Rock, Ark., died on May 9. He was district manager for the Dearborn Chemical Co., Chicago, Ill., in Arkansas, Louisiana, and east Texas. He had been associated with this company since January, 1925.

In the WAR PRODUCTION PROGRAM

It's SPEED and DEPENDABILITY that Count Most . . .

that's Why "CLEVELANDS"

Are Indicated for the Trenching Jobs

Clevelands are "in the thick of it" digging trench on various U. S. Government projects and working on many utility pipeline jobs necessary to supply the thousands of cu. feet of gas required in our "all out for victory" program.

Compact, fast, flexible and mobile Clevelands are easy to operate. Rugged and amply powered for the toughest tasks, they are delivering maximum footage day in and day out, on every job and reducing to a minimum service interruptions.

Illustration at the left shows the famous "BABY DIGGER"—CLEVELAND MODEL 95—the pioneer small trencher, known and used throughout the gas industry. Its wide range of cutting widths and all-around value have made the "MODEL 95" supreme as a general purpose gas company trencher.

THE CLEVELAND TRENCHER CO.

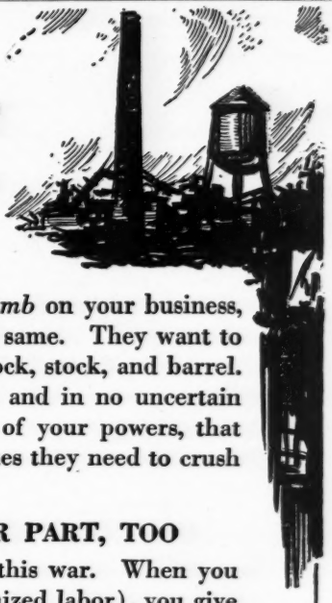
"Pioneer of the Small Trencher"

20100 St. Clair Avenue • Cleveland, Ohio

Illustration at the right is an important "Cleveland" feature. Truck speed transportation on special trailers. They load and unload in 10 to 15 minutes.

TARGET FOR TONIGHT

. . . *Your Business?*



Maybe they won't actually come and drop a *bomb* on your business, but the Axis war lords have their eye on it, just the same. They want to wipe it out as a competitive force—or take it over lock, stock, and barrel. Here is a threat that you can reply to *now*, today, and in no uncertain terms—by buying Defense Bonds to the very limit of your powers, that our armed forces may have the guns, tanks, and planes they need to crush the Axis *once and for all.*

HELP YOUR EMPLOYEES TO DO THEIR PART, TOO

Every American wants the chance to help win this war. When you install the Pay-Roll Savings Plan (approved by organized labor), you give your employees that chance. For details of the Plan, which provides for the systematic purchase of Defense Bonds by voluntary pay-roll allotments, write: Treasury Department, Section S, 709 12th St. NW., Washington, D. C.

***Make Every Pay Day* "BOND DAY"**

***Save with* U. S. *Defense* BONDS ★ STAMPS**

This space is a contribution to Victory by

1709 W. 8th Street **GAS** Los Angeles, California

We've prepared an interesting little folder that tells how the "falling persons" hazard can be reduced... with comfortable, approved, easy-to-use devices that save workers' time and lives. Though not a manual on the subject, the suggestions have been carefully weighed with approved practices and found practical. May we send you a copy?

1B-6

E. D. BULLARD COMPANY
275 Eighth Street
San Francisco, California.
Everything BULLARD in Safety

Send new free folder describing personal safety equipment and its use in preventing falls of ladder, scaffold, derrick and other workers.

Name _____

Address _____

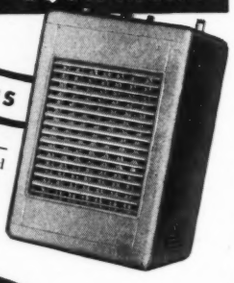
City _____ *State* _____ G

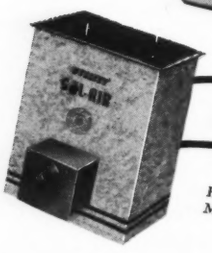
NATIONWIDE SALES AND STOCKS

GAS-FIRED HEATING EQUIPMENT

UNIT HEATERS

Blower and Fan Models—Four Sizes—Self-contained—No Inside Baffles.



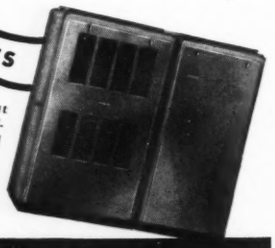


FLOOR FURNACES

Floor and Dual Register Models in 3 capacities.

FURNACES

Compact, efficient Blower-type, forced-air basement and closet models.



Utility Fan Corp.

4851 South Alameda • Los Angeles, Calif.

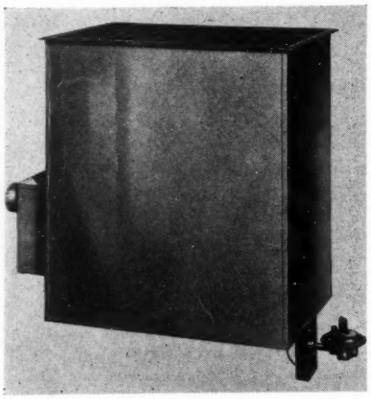
PRODUCTS

Gas Floor Furnace

American Radiator & Standard Sanitary Corp., Box 1226, Pittsburgh, Pa.

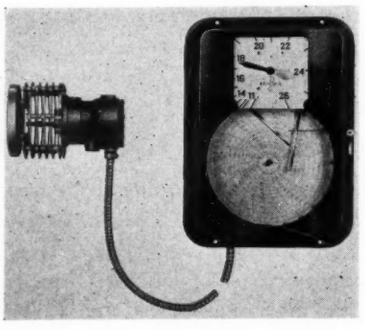
Model: Saginaw Gas Floor Furnace.

Application: The manufacturer states that the Saginaw Gas Floor Furnace provides carefree warm air heating at minimum operating and installation cost.



Description: The furnace consists of an outer and inner casing, the latter enclosing the combustion elements and radiator, and forming the chamber from which warm air enters the rooms through the register. The area between the two casings is the return air space. The deep combustion chamber, extra large radiator, efficient burner and general design provide proper combustion and ample surface for maximum heat transfer. The heat is regulated manually, or, by addition of necessary controls, can be entirely automatic. Available in four sizes—with A. G. A. B.t.u. outputs per hour of 14,000, 24,000, 35,000, and 49,000.

■ ■



Radiation Pyrometer

The Bristol Co., Waterbury, Conn.

Model: Pyrovac Radiation Pyrometer.

Application: Designed for recording, indicating, or automatically controlling temperatures in furnaces and kilns above 900° F. It is intended for use in measuring controlling temperatures that fall into the following classifications: (1) High temperatures out of the range of the thermocouple. (2) Temperatures for which rare-metal thermocouples are used. (3) Surface temperatures, such as roof, wall, dust, lining, or retort temperatures and the temperature of the work itself rather than furnace or kiln temperature surrounding the work. (4) Where object is moving, is inaccessible, or where there are space limitations.

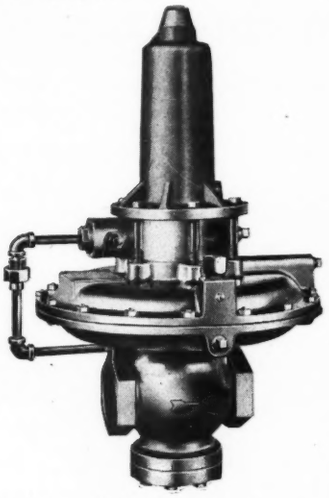
Description: The temperature-sensitive unit or radiation head is mounted on the outside of the furnace out of the hot zone where it picks up heat rays emitted from the object under measurement, thus registering its surface temperature.

■ ■

High Pressure Regulator

Pittsburgh Equitable Meter Co., 400 N. Lexington Ave., Pittsburgh, Pa.

Model: Emco "1001" High Pressure Gas Regulators (an addition to the present Emco "1001" series).



Application: Provides an outlet pressure range of up to 60 lbs. per sq. in. maximum.

Description: Furnished either for outlet or inlet pressure control. Designed to cover the entire span between 5 lbs. and 60 lbs. with the same spring. Made in one size only with a 2-in. threaded connection for standard pipe. The manufacturer states that this regulator can be used to control air, natural or manufactured gas.

■ ■

Meter-Regulator Diaphragm

Vulcan Proofing Co., First Ave. and 58th St., Brooklyn, N. Y.

Application: For practically all standard makes and sizes of meters and regulators.

Description: Made entirely of domestic materials. The Vulcan material is a coated fabric. The coating which covers the fabric is a synthetic compound of high flexibility and resistance to all constituents found in various types of gases. No natural rubber is used in the manufacture. After the coated fabric is made it is fabricated or moulded into a form to fit the particular appliance. In the moulding op-

eration a permanent set is obtained by a vulcanizing process. For tin meters and the metric type of meter, a loop is made similar to a leather diaphragm, except that instead of a straight sewed seam a vulcanized biased seam is made. For other types of iron and steel case meters a moulded diaphragm is used. Results indicate that the design of diaphragm that gives the best roll and the least wrinkling of the diaphragm will give the best performance. The moulded regulator diaphragms have ample fabric so there is no strain on the diaphragm regardless of valve movement.

■ ■

Automatic Heating Control

L. J. Mueller Furnace Co., 2005 West Oklahoma Ave., Milwaukee, Wis.

Model: "Seasonstat" Automatic Heating Control: "Cold 70."

Application: For gas, oil, or coal-fired automatic heating equipment.

Description: Keeps the heating plant in step with the weather by slowing it down in mild weather and stepping it up in colder weather. The manufacturer states that the "Seasonstat" provides the home owner with the same control over the operation of his heating system as he now has over his radio. He can "dial" his comfort, for the control by controlling the heat produced—provides smaller amounts in milder weather and larger amounts in colder weather.

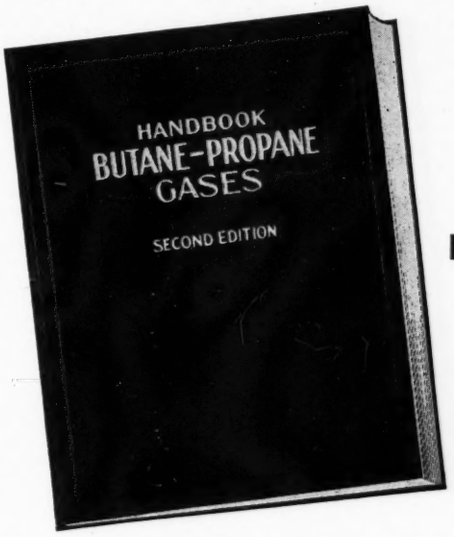
Catalogs

Copper & Brass Research Association, 420 Lexington Ave., New York, N. Y., has issued a booklet titled "How Small Industries Can Go After War Work." Purpose of the illustrated booklet is to show small companies how to go after contracts or subcontracts through the Contract Distribution Branch, Production Division, War Production Board, Washington, D. C., or through its Regional Offices in many cities in each state. A list of Regional Offices and addresses, the names of officers and telephone numbers are included.

• Robertshaw Thermostat Co., 30 Church St., New York, N. Y., has issued an 18-page booklet, "Robertshaw Thermostats for Commercial Cooking Equipment," which gives information about the advantages, economies, and operation of thermostatic controls for commercial cooking equipment. The booklet covers various efficient types of thermostats for a wide range of equipment. Data concerning savings and improvement in cookery through correct use of heat, based on long series of tests using scientific thermostatic control is also presented.

• Servel, Inc., Evansville, Ind., has issued a bulletin (form No. SVN-654) on Suggested Installation Piping Connections, 1942 "N" model Servel Gas Refrigerators, using ¼-in. wrought iron pipe. Pictures accompany the explanations of the connections. Additional copies of this Sales Service Instruction, form SVN-654, may be obtained without charge.

WHILE THEY LAST



A Limited Quantity
2nd Revised
Edition

HANDBOOK BUTANE-PROPANE GASES

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SPECIAL QUANTITY DISCOUNTS

Soon to be Replaced by 3rd Edition but Ideal for Staff Education and Instruction on LP-Gas Fundamentals

A new edition of the HANDBOOK BUTANE-PROPANE GASES soon to be published makes it possible to now offer the current "2nd Revised" Edition, of which thousands have been purchased at the regular $5.00 figure, at these Special Quantity Discount prices:

1-3 copies	$5.00 each
4-10 copies	$2.50 each
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Ickes Outlines Well-Spacing Laws to Illinois Operators

PETROLEUM Coordinator Harold L. Eckes has outlined to Illinois operators the conditions under which wells may be drilled in Illinois fields closer than one well to 40 acres as required under Conservation Order M-68.

Recognizing the proximity of the Illinois fields to war industry centers of the Midwest and on the Eastern Seaboard, the Coordinator announced that Illinois operators may expect a relaxation in the spacing requirements of Conservation Order M-68 for those pools and fields where the physical conditions justify such action. The arrangement does not require an amendment to Order M-68 but is adaptable under the provisions of the order, as it now stands, which provide for the approval of exceptions for entire pools and fields under certain circumstances.

Applications for exceptions to Order M-68 will be accepted for the present time from Illinois operators and favorably considered on the basis of well depth, where the physical producing conditions warrant, along the lines of the following approximate rules: 5-acre surface spacing for sand reservoirs at a depth of 500 ft. or less; 10-acre surfaee spacing for depths greater than 500 ft. and less than 1500 ft.; and 20-acre surface spacing for greater than 1500 ft. and less than 2500 ft.

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Gas Industry Cooperation Is Sought for War Service Jobs

The United States Civil Service Commission, Washington, D. C., is seeking the cooperation of the gas industry in securing high-grade personnel for essential war jobs. The commission has undertaken a definite recruiting program to establish reservoir of material on qualified candidates for all types of high-grade positions, including executive, administrative, technical, industrial, and professional (except law) for the purpose of supplying the needs of the war agencies.

Gas companies are asked to designate some of their officials in vice president or general manager capacities to act as key source men in locating executive personnel from specialized fields. These men should be capable of referring persons of government positions paying salaries of $4600 per year and up.

Volunteers who will cooperate in this program may write to L. A. Moyer, executive director and chief examiner, United States Civil Service Commission, Washington, D. C.

■ ■

New Procedure Accelerates A. G. A. Inspection Reports

A new simplified procedure adopted early this year by the American Gas Association Testing Laboratories has greatly accelerated submission of inspection reports to individual equipment manufacturers.

The inspection report is prepared at the plant as the last item of business and presented directly to the plant manager or head of the company. In this manner a written record is made immediately available for his use in placing any necessary changes in production. The manufacturer may also report to the Laboratories inspector and thus clarify points which might not be understood.

■ ■

New Boston, Texas, Residents Get New Natural Gas Supply

The Arkansas Louisiana Gas Co., Texarkana, Texas, has completed a new gas line from Texarkana to New Boston, Texas, and applications from New Bostonians for service are now being answered. Location of war plants near New Boston has been responsible for a large increase in population. The line is an extension of the one serving the Lone Star and Red River war plants.

■ ■

Navy "E" Award Is Made to The W. J. Schoenberger Co.

In a ceremony conducted by the United States Navy, The W. J. Schoenberger Co., Cleveland, Ohio, on April 10 was presented the Navy "E" award.

The award, which recognizes the company's record in production of ordance material, was made by Rear Admiral John Downes, Commandant, Ninth Naval District, Great Lakes, Ill., at an assembly of all the company's employees in the factory, 8810 Harvard Avenue. Each man and woman in the factory was presented with the Navy "E" button. W. J. Schoenberger, company president, formally accepted the Navy's award from Rear Admiral Downes. (See photo.)

Rear Admiral John Downes, U.S.N., Commandant, Ninth Naval District, and W. J. Schoenberger, president, the W. J. Schoenberger Co.

Admiral Downes explained that the Navy, since 1906, has been awarding the "E" as a distinction of excellence in gunnery, battle practice and engineering among crews of Uncle Sam's warships and airplanes.

■ ■

"The Flow Line" Is New Merco Nordstrom Magazine

First issue of *The Flow Line*, a magazine of measurement and control, dedicated to "those who make the wheels go 'round in the gas, oil and process industries," made its appearance recently. It is published by the Merco Nordstrom Valve Co. and the Pittsburgh Equitable Meter Co.

The opening article of the first issue of *The Flow Line* was edited by Col. W. F. Rockwell, president of the company, and was titled "Our War Work." A feature article of the 20-page issue is "Pressure Regulation —The Utopian Viewpoint in Relation to Actualities," by Allen D. MacLean, vice president and chief engineer, Pittsburgh Equitable Meter Co. Editor of the publication is R. S. Reed, Jr. It is published at 400 Lexington Ave., Pittsburgh, Pa.

■ ■

F. P. C. Permits Cabot Corp. To Sell Pipe Line Facilities

The Federal Power Commission has announced its order authorizing the Cabot Gas Corp. to abandon its natural gas pipe line and other property located in Monroe county, New York, by sale and transfer to the Rochester Gas & Electric Corp. for $100,000 pursuant to the terms of an application filed by the Cabot company under Section 7(b) of the Natural Gas Act. The property involved consists principally of 101,875 ft. of 14-in. welded steel pipe and unlimited franchises for the rendering of natural gas service in the towns of Gates, Chili, Wheatland and Greece in Monroe county. All of applicant's natural gas requirements have been purchased from its parent company, Godfrey L. Cabot, Inc., Boston, Mass., at the New York-Pennsylvania boundary.

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